Iγ1: the senses of being and the causes of being

Iγ1a The aims of ΔE and the argument of E1
Iγ1b The aims of <u>Metaphysics</u> Δ
Iγ1c Δ7 and the many senses of being

Iγ1a: The aims of ΔE and the argument of E1

To summarize the state of the argument after <u>Metaphysics</u> ΑΒΓ. In pursuing wisdom, we are looking for the ἀρχαί, the first of all things. We know that these must be eternal, and also that they must exist separately, in the sense described in Iβ4 above. Since such ἀρχαί are not manifest to us, we must reason to them as causes of some more manifest effect; and only this kind of reasoning will allow us to resolve the disputes among the physicists, mathematicians and dialecticians about what things are ἀρχαί. Not every causal chain leads up to separately existing eternal causes, and it was not immediately obvious what effect we should start from in order to discover such causes. But <u>Metaphysics</u> Γ, taking up B#2-4, argues that we should look for the ἀρχαί as causes of being <u>quâ</u> being and of the <u>per se</u> attributes of being--that is, as causes, to the things that are, of the facts that they are, that each of them is one and the same, that they are many and different and sometimes contrary to each other, and so on. (Γ also argues that the causes of substance will be causes of all beings, and that the science of being <u>quâ</u> being will also give knowledge of the principles of demonstration.) But much work remains to be done before we can reach the desired science. It is still not really clear how to begin: we should look for causes of being and unity (and so on), but "cause" and "being" and "one" (and so on) are each said in many ways, and we do not know which kinds of cause, of which kinds of being and unity, will lead to the desired ἀρχαί. Certainly the very first task is to distinguish the different ways in which these things are said, since if we simply start by looking for causes-without-distinction of being-without-distinction, we can only end in confusion. Once we have drawn the distinctions, there will be many paths of inquiry we might pursue, and the correct method is to pursue all of them, one at a time without confusion, testing each of them to see whether it leads to the desired ἀρχαί or not.

Much of the <u>Metaphysics</u> after Γ clearly follows this plan. We are looking for the ἀρχαί, causes and στοιχεῖα of beings, <u>quâ</u> being and <u>quâ</u> one and so on, and <u>Metaphysics</u> Δ gives us a discussion of the different senses of ἀρχή (Δ1), cause (Δ2), στοιχεῖον (Δ3), of one (Δ6), of being (Δ7), of same and other and different (Δ9), and of many other things that will be needed for the investigation of the causes of beings. (This is not to say that absolutely every term discussed in Δ is needed for the subsequent argument of the <u>Metaphysics</u>, or that no other terms could usefully have been added.) In particular, Δ7 distinguishes four senses of being--not, as we might have expected, corresponding to different categories, but rather (i) being <u>per accidens</u>, (ii) being as said of the different categories, (iii) being as truth, and (iv) being as actuality and potentiality, of which at least (ii) and (iv) must have sub-senses. This list of senses of being generates the overall structure of the next several books. Thus E2, with a clear reference back to Δ7, takes up this list of four senses of being (1026a33-b2), in the slightly different order (i)-(iii)-(ii)-(iv), and the remainder of EZHΘ follows through this list in this same order. The remainder of E2 (with its appendix E3) discusses being <u>per accidens</u>, arguing that there is no science of being in this sense (and, therefore, that wisdom is not a science of being in this sense). The brief E4 likewise

discusses being as truth, and concludes by dismissing both of these senses of being together: "let what is <u>per accidens</u> and what is as true be dismissed--for the cause of the former is indeterminate and of the latter is some affection of thought, and both of them concern the remaining kind of being, and do not indicate that there is any further nature of being--so let these be dismissed, and let us investigate the causes and ἀρχαί of being itself <u>quâ</u> being" (1027b33-1028a4).[1] And ZHΘ continue the program of examining (the causes of) being in these senses. The end of E4 and beginning of Z1,[2] with an even clearer reference back to Δ7 ("καθάπερ διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς", Z1 1028a10-11), pick up the sense of being as divided into different sub-senses according to the categories: Z1 argues that we need only study being-as-οὐσία, and this is what the rest of ZH are about (H1 says we are investigating the "causes and ἀρχαί and στοιχεῖα of οὐσία", 1042a4-6). Θ1 then says that having spoken about being as divided into the categories (and especially about οὐσία), we must now speak about being as potentiality and actuality (1045b27-35), and this is what Θ1-9 proceed to do; finally, the opening of Θ10 (1051a34-b2) lists all three non-accidental senses of being from Δ7, and proceeds to address being as truth, and in particular the question of how truth can be said of non-composites, a question specifically deferred for later treatment in E4 (1027b25-9). Thus Δ7, by distinguishing the senses of being, demarcates the different paths that we must pursue in examining the causes of being in EZHΘ. Similarly, Iota examines <u>per se</u> attributes of being such as unity, plurality, sameness, otherness, difference and contrariety (all mentioned in Γ and discussed in Δ), with a view to deciding whether these lead to such ἀρχαί as a one-itself or a pure otherness or a first contrariety, as proposed in various Academic accounts of the ἀρχαί; Δ's distinctions make it possible to critically evaluate these Academic paths to the ἀρχαί, and Iota relies on Δ throughout.[3]

In the present section Iγ1 I will discuss <u>Metaphysics</u> ΔE to the extent that these books help to set up the argument of the subsequent books of the <u>Metaphysics</u>, and especially of ZHΘ, to be discussed in Parts II and III. But before turning to ZHΘ, in section Iγ2 I will examine <u>Metaphysics</u> Iota on unity and its opposites, a separate branch of the argument coming out of <u>Metaphysics</u> ΓΔ, independent of the investigation of the causes of being in EZHΘ. In a long appendix I will also examine <u>Metaphysics</u> MN, which seem to draw on Iota, although these books are investigating paths to the ἀρχαί not as causes of being, or as causes of unity and its

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[1] I have translated οὐκ ἔξω δήλουσιν οὖσάν τινα φύσιν τοῦ ὄντος as "do not indicate that there is any further nature of being," i.e. just drawing out the negative implication of "both of them concern the remaining kind of being" [incidentally, where A^b omits the τοῦ, M has it, thus allowing A^b's reading to be eliminated stemmatically. M, like A^b, has τὸ ὡς ἀληθῶς ὄν for τὸ ὡς ἀληθὲς ὄν in b33-4]. Ross' commentary takes οὐκ ἔξω ... οὖσαν to mean "not existing outside the <u>mind</u>" rather than "not existing outside the otherwise recognized kinds of being," relying in part on the meaning of ἔξω implied by the K parallel "what is as true … is in the interweaving of thought and is an affection in this (for this reason we do not seek the ἀρχαί of what is in this way, but of what is ἔξω and separate)" (K8 1065a21-4). however, while it makes good sense to say that being as truth does not exist outside the mind, it does not seem to make sense to say that being <u>per accidens</u> does not exist outside the mind; precisely because K8 takes "ἔξω" in this sense, it denies existence ἔξω only to being as truth, whereas E4 denies it both to being as truth and to being <u>per accidens</u>. {Kirwan takes it my way, and, curiously, this is what Ross' translation also seems to presuppose}. perhaps here or elsewhere a note on the Arabic mistranslation of λοιπὸν γένος τοῦ ὄντος; see Maurer?

[2] what is transmitted in the manuscripts (in shorter or longer versions) as the last sentence of E, 1028a4-6, bracketed by Christ and Ross and Jaeger (following Bonitz' comment <u>ad locum</u>), is a merely verbal variant on the first sentence of Z1, 1028a10-11. I will say something about this situation below, in discussing Jaeger's views, but for the time being it does not matter how we resolve this

[3] Iota has (what I take to be) references to Δ6, Δ9, Δ10, Δ15, Δ16, Δ22 and Δ28; for discussion of these references, and of the aims and argument-structure of Iota, see Iγ2 below

opposites, but rather as ἀρχαί of eternally unmoved things, especially numbers. (To that extent these books fall outside the program initiated in Γ1 of investigating the causes of being and its per se attributes, pursuing a different branch of the broader program initiated in AB.) Both Iota and MN are relatively minor pathways off of the major paths of argument in ZH and Θ, and both are mainly directed negatively against the Academics (although this should not be a reason for not studying them, since, as we will see, this is true of Z as well). But it will be important to study the argument-structures of these books, and how they fit into the larger argument of the Metaphysics, rather than ignoring them, as is often done precisely because they do not fit into a conception of the whole Metaphysics as an investigation of being quâ being.[4] Further benefits of the study of IMN will be that the way Iota draws on Δ6 and Δ9-10 on unity and its opposites will give us a model for the way that ZHΘ draw on Δ7 on being (and Δ8 on οὐσία, Δ12 on δύναμις, and so on), and that Λ will draw on negative results of both Iota and N, as well as on ZHΘ.[5]

E, too short to be a book in its own right, can never have been anything but a programmatic introduction to ZHΘ, and that is how I will treat it here; and so my treatment of E will also be an introduction to my treatment of ZHΘ. I will go back and forth between E and Δ, following Aristotle's lead when he refers us back to Δ7 in E2 and again in E4. I will start with E1, the first place in the Metaphysics where Aristotle specifies wisdom as "first philosophy" as opposed to physics and mathematics, as a science of separate eternally unchanging things;[6] this chapter is especially important because, for the first time, Aristotle raises the possibility that some ways of pursuing the causes of being or its attributes might fail to lead to the desired ἀρχαί, either because they lead to no scientifically knowable causes at all, or because they lead to causes which are known by some science, but which are not the ἀρχαί in the strict sense, the first of all things, so that the science that knows these causes will not be wisdom. This sets an important part of the agenda of the remaining books, which examine various paths to see whether they lead to separate eternally unchanging causes, often with negative results. E2-4 already investigate two such blind paths, but before treating them I will need to examine Metaphysics Δ. While my immediate concern for the purposes of this section will be with Δ7 on the senses of being--an extremely difficult and remarkably little studied chapter which I will discuss in detail--in order to get clear about the method and function of this chapter it will be important first to say some things about the method and function of Δ as a whole. This is particularly important because most scholars since the time of Brandis and Bonitz have thought that Δ was originally not part of the Metaphysics at all, but an independent Aristotelian treatise arbitrarily inserted by later editors within the great unfinished treatise consisting of, on the most common view, ΑΒΓΕΖΗΘΙΜΝ. (A few scholars have also had qualms about the status of E.) But I will avoid a detailed discussion of each of the chapters of Δ, which would risk losing the thread of the main argument of the Metaphysics that I am trying to bring out. (I will briefly discuss a number of chapters of Δ later on, in the places where Aristotle uses them in later books of the Metaphysics.) I will then return to Δ7 and, in discussing its accounts of being per accidens and being as truth, I will also discuss the brief arguments of E2-4 that these senses of being do not have causes which lead to

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[4]thus Joseph Owens' The Doctrine of Being in the Aristotelian Metaphysics, still the closest thing we have to a read-through of the argument of the treatise, devotes about a page to Iota, five to M1-9α, and three to N (although nine pages to M9β-10, on the individuality or universality of the ἀρχαί)

[5]on the order of the books, with MN before Λ, see Iα5 above, as well as the discussions of the individual books (make sure Iα5 has the point about the phantom manuscript order MNKΛ, as in the Zeller paper)

[6]caveat about the mentions of first philosophy in Γ2-3

the ἀρχαί, and I will also say something about the more positive account of the truth of non-composites in Θ10.

The aims of E1

E1 carries on the process, begun in A1-2 and continued through ΑΒΓ, of specifying wisdom more precisely (see Iα2 above). In particular, E1 argues for the first time in the <u>Metaphysics</u>, except purely aporetically in B or A8-9, that physics and mathematics are <u>not</u> wisdom. This sets the task, in the subsequent investigation of the causes of being in its various senses, of determining whether the various causal chains do or do not lead to some cause which exists beyond the sensible and mathematical things, and which is free from the deficiencies that disqualify sensible and mathematical things from being the first ἀρχαί.

E1 begins by saying, "we are seeking the ἀρχαί and causes of beings, and it is clear that this is [of them] <u>quâ</u> beings" (1025b3-4). This is intended to place the present discussion within the inquiry announced in Γ1, and to recall Γ1's arguments about what wisdom must investigate. From this starting-point, E proceeds quite differently from Γ. E says almost nothing about the <u>per se</u> attributes of being, which are prominent in Γ but are the topic of Iota rather than of EZHΘ (the last sentence of E1, 1026a32-3, briefly mentions that the science of being <u>quâ</u> being will also deal with its <u>per se</u> attributes). Also, E has none of Γ's worries about how a single science can deal with different senses of being, or in particular with beings in different categories: this is an aporia that has already been solved, and does not need to be discussed again. However, E1 does take up one of Γ1's theses beyond its identification of wisdom as a science of being <u>quâ</u> being, namely its distinction of this science from "particular" sciences such as the mathematical disciplines: as Γ1 puts it, the science we are seeking "is not identical with any of the 'particular' sciences [αἱ ἐν μέρει λεγόμεναι {ἐπιστῆμαι}], since none of these investigates being universally <u>quâ</u> being, but rather they cut off some part of it [some one genus of being] and consider its attribute, as the mathematical sciences do" (1003a22-6, cited above Iβ2b). E1 takes this up, but it pushes much further its analysis of the failure of the particular sciences to give causes of being <u>quâ</u> being--causes, to the beings they study, of the fact that they <u>are</u>. To do this, E1 relies on the analysis in the <u>Posterior Analytics</u> of the different kinds of principles that the sciences must assume without demonstration. E1 speaks of "every science which is διανοητική or participates in διάνοια" (1025b6), all of which deal with some sort of causes and ἀρχαί, and all of which deal with some genus of being, but not with the causes of being <u>quâ</u> being: the paradigmatic διανοητικαὶ ἐπιστῆμαι are the mathematical disciplines, and the other group are perhaps practical sciences (pseudo-Alexander) or empirical sciences (Bonitz-Ross). All of these sciences

> circumscribe some being[7] and some genus, and treat of it, but not of being <u>simpliciter</u> or <u>quâ</u> being, nor do they produce any λόγος of the τί ἐστι, but beginning from the τί ἐστι, some making it manifest to sensation and others taking it as a hypothesis, they demonstrate, more strictly or more loosely, the <u>per se</u> attributes of the genus they are about: so it is clear from this kind of survey [ἐπαγωγή, sc. of the different sciences] that there is no demonstration of the

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[7] reading ὄν τι with A^bM rather than ἕν τι with EJ

οὐσία or the τί ἐστι,[8] but rather some other mode of making it manifest. Likewise they say nothing about whether the genus they treat <u>exists</u> or not, since it belongs to the same reasoning [διάνοια] to make manifest what a thing is and whether it is. (1025b8-18)

Now at first sight it seems unduly harsh to say that the other sciences "produce no λόγος of the τί ἐστι": surely it belongs to meteorology to produce a definition of thunder, and while the meteorologist cannot <u>demonstrate</u> the definition of thunder, the metaphysician cannot be expected to demonstrate it either. But I take Aristotle's point to be that the scientist does not give a scientific definition of the genus that the science is about, nor of the simples within that genus, although he may give a scientific definition of complex things such as thunder. (This may be supported by the last sentence of the passage: the sciences "say nothing about whether the genus they treat exists or not," but hypothesize it or take it as obvious to sensation, although they do prove the existence of complexes, e.g. geometry proves the existence of a square equal to a given rectangle; and, as Aristotle says, manifesting the existence of a thing and manifesting its essence go together.) On the analysis of the <u>Posterior Analytics</u>, each science assumes as undemonstrated principles both the existence [εἰ ἔστι] and the essence [τί ἐστι] of the simples with which it deals (for geometry, this might include points and straight lines and circles, perhaps also the simple operations such as drawing a straight line between two given points; for arithmetic, indivisible units and the operation of adding). In a sense, the science also assumes without demonstration the essences of its complex objects, but proves the existence of those objects. Thus Euclid's <u>Elements</u> explicitly assumes as undemonstrated principles definitions both of simples (such as point, straight line, circle) and of complexes (which as triangle, equilateral triangle, square, parallel lines), and also postulates, which can be taken as asserting the availability of some simple operations, or the existence of the simple objects they construct; Euclid then demonstrates, alongside many non-existential propositions, the existence of many of the complexes he has defined (e.g. equilateral triangle I,1, parallel lines I,31, square I,46).[9] However, in <u>Posterior Analytics</u> II,10 Aristotle distinguishes between two kinds of definitions of complexes, what are traditionally called nominal and real definitions: the science presupposes the nominal definitions of the complex objects it treats, perhaps simply borrowing these

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[8]ps-Alexander construes this instead as "it is clear that there is no demonstration of the οὐσία or the τί ἐστι from this kind of ἐπαγωγή"--whereas there might be a demonstration of a definition from some other procedure. ἐπαγωγή would then be not a survey of the different sciences, but a procedure of induction within each science that leads non-demonstratively to a universal definition. but Aristotle has been saying, not that the sciences get their definitions by induction, but that they hypothesize them or make them manifest to sensation. I take Aristotle to have suggested an enumeration of the sciences (he has in the previous sentence, mentioned mathematics and medicine in support of an inductive claim that every science which is διανοητική or participates in διάνοια deals with some kind of causes and ἀρχαί); he says "this kind of ἐπαγωγή" rather than "this ἐπαγωγή" because he has merely sketched such an enumeration and not carried it out in detail. the K parallel, K7 1064a8-10, unambiguously implies this interpretation. Kirwan follows ps-Alexander's interpretation; Ross, with some misgivings, follows the interpretation I have adopted (check 3 versions of Ross; check Bonitz, medievals). see Ross' commentary for discussion

[9]I am deliberately avoiding many difficulties (including the anomalous fourth postulate). the assertions of existence are all framed as problems rather than theorems, i.e. they show how to construct an object of a given type having prescribed relations to given objects (e.g. an equilateral triangle on a given base). more powerful problems, such as constructing a square equal to a given rectilineal figure (II,14), are also of this logical form and are also in a sense existential propositions (they could also be taken as asserting the existence--i.e. the availability, expressible by ἔστι potential--of an operation such as squaring a rectilineal figure). I am bringing Euclid in merely for sake of illustration, and without commitment to how close an <u>Elements of Geometry</u> in Aristotle's time would have been to Euclid, whether Euclid is responding to Aristotle or other Academic theories of science, etc.

definitions from ordinary unscientific usage ("thunder is noise in the clouds"), but in demonstrating the existence of an object meeting the nominal definition, using the appropriate cause as a middle term (noise belongs to extinction of fire, extinction of fire belongs to clouds, therefore noise belongs to clouds), the science also manifests the properly scientific definition ("thunder is noise due to the extinction of fire in the clouds"), although it cannot <u>demonstrate</u> this definition.[10] This is clearly what Aristotle is referring to here when he says that it belongs to the same reasoning [διάνοια] to make manifest what a thing is and whether it is. Each particular science produces such a reasoning to demonstrate the existence, and non-demonstratively manifest the essence, of the complex objects that it treats. But the science does not produce any reasoning to manifest either the existence or the essence of its simples: either it just takes them as manifest from sensation, or, where they cannot be ostended, it hypothesizes, as arithmetic hypothesizes indivisible units and geometry hypothesizes perfectly straight lines.[11] The result is that, while the particular science does indeed give the causes of being, both as existence and as essence, to the beings within its genus, it is giving the causes of being only to the complexes within its genus, but not to the simples within the genus, and so not to the genus as a whole: it traces the cause of the being of the complexes back to the simples, but leaves the being of the simples unexplained.

However, given that all of this seems to follow from the general account of science in the <u>Posterior Analytics</u>, it would seem to be true of <u>all</u> sciences; whereas Aristotle in E1 seems to be distinguishing between lower sciences, which have this deficiency, and wisdom, which does not. How can wisdom break the general rule, and deliver the causes of being to all beings universally?

I think to some extent the answer is that it cannot, and that the search for "the science we are seeking" will be disappointed. Certainly if we expect that metaphysics will produce scientific definitions of the things hypothesized as simples in the other sciences, and will demonstrate the existence of all of these objects, we will be disappointed.[12] But this is an unduly pessimistic way of putting the point. What Aristotle thinks is that we cannot discover the causes of being <u>quâ</u> being unless we first distinguish the senses of being (and of cause). Some of the causal chains that we can distinguish will not lead beyond the particular sciences, or not very far beyond--some chains might lead up from a particular branch of mathematics to a higher branch or to "universal mathematics," or from a particular physical investigation to general physics. In particular, Aristotle seems to think that none of the causes that would be included in the definition of a thing, on the model of the <u>Posterior Analytics</u>, will lead to the highest ἀρχαί. But at the present stage of the argument these distinctions have not yet been introduced. And, without these

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[10]likewise the nominal definition of squaring a rectangle is "constructing a square equal to the rectangle"; closer to the real definition is "finding a mean proportional between the sides of the rectangle [and constructing a square on that base]" (Aristotle's example, n shorthand form, in B#1 996b18-22--note that he puts this as a definition of the operation rather than of the resulting object); the full real definition would be given by the construction-procedure for finding a mean proportional

[11]Ross misses the point in his note <u>ad locum</u>; he says that knowing εἰ ἔστι and τί ἐστι do not happen simultaneously, but that "the <u>mode</u> of knowledge" (my emphasis) is "of the same type in both cases"; "It is in fact in both cases immediate apprehension, not demonstration, and this is what Aristotle means by τῆς αὐτῆς διανοίας". (as Ross says, the <u>Posterior Analytics</u> says that we ask what X is only once we know that X is; but at this stage we do not have demonstrative knowledge that X is, and when we find this we will also find out scientifically what it is [we must have had at least a nominal definition all along, or we could not have recognized the ostended thing as an X]).

[12]a number of medieval philosophers, starting from things in Alexander, do think that metaphysics will demonstrate the principles of the particular sciences (this <u>may</u> be innocent if they just mean the principle of noncontradiction and the like): this is, I think, in both Fârâbî and Avicenna

distinctions, Aristotle has available to him a plausible model, which will need critical examination, for how a universal science of all beings might demonstrate the existence (and thus also manifest the essence) of the things assumed as simples by the other sciences.

That model is, of course, Platonic dialectic. Already in Metaphysics Γ Aristotle had taken up the Republic's promise of an ἀνυπόθετος ἀρχή, although the ἀρχή of Γ3-8 was a principle of demonstration rather than a first being. Now in E1 Aristotle is ostentatiously drawing on the Republic's contrast between the mathematical disciplines, which depend on hypotheses that they cannot demonstrate, and the higher discipline--dialectic, according to the Republic--which alone grasps the highest ἀρχή, which alone is able to give the λόγος of what each thing is, and which alone gives unhypothetical knowledge (so Republic VI 510b2-511d5, VII 533a8-e2, 534b3-6). When E1 describes (especially) the mathematical sciences as διανοητικαί, this might be opposed to practices that involve action or sensation rather than reasoning, but it is also opposed to an unhypothetical intellectual grasp of ἀρχαί: at Republic VI 511c3-d5 and VII 533b6-e2 the mathematicians, because they are dependent on hypotheses of which they can give no further λόγος, fall short of knowledge in the full sense (called νοῦς in Republic VI, ἐπιστήμη in Republic VII) and have only διάνοια, which is intermediate between true knowledge and mere opinion. Aristotle is saying, like Plato, that the διανοητικαί sciences must hypothesize their subject-matters, or else rely on sensation to make them manifest--thus wisdom, not being subject to these deficiencies, must be something higher than διάνοια. For Plato, as for Aristotle, the hypotheses of the sciences include the existence of their subject-genera or of their simples (at Republic VI 510c2-5, arithmeticians and geometers hypothesize the even and the odd and the figures and the three kinds of angles [sc. right, acute and obtuse]; at Republic VII 524d9-526a7, indivisible and equal units cannot be found in sensible things, with the apparent implication that the arithmetician must hypothesize their existence). For Plato, dialectic examines the hypotheses of the sciences with a view to proving them or disproving them on the basis of some higher hypothesis, or ultimately of the ἀνυπόθετος ἀρχή. Presumably a higher science could thus prove the existence of the objects which mist be hypothesized as simples by the lower sciences. And we have an example of how Plato hoped this might work in the second hypothesis of the Parmenides, where starting from hypothesizing unity and being and the participation of unity in being, Plato sketches a deduction of the existence of infinitely many units, of two and three, twice and thrice, and the various kinds of numbers (142c7-144a9), and, even more sketchily, of the different kinds of shapes (145a4-b5); presumably the various accounts of the generation of numbers and shapes from the One and the indefinite dyad would have had a similar intention. Of course Aristotle does not believe that any of this works, but it is an example of the kind of possibility he is considering in our passage of E1, where a higher science would give a cause of being to everything in the genus treated by the lower science, not just to its "complexes," but also to its "simples," which are no longer simple and primitive from the point of view of the higher science, Aristotle will return in Z17 to the kind of cause of existence described in Posterior Analytics II, which in Aristotle's judgment will not lead to the desired ἀρχαί. But before we can pass any judgment, we need to distinguish the different senses of being, which will have different kinds of causes, and will lead to different proposals for what the highest science will be.

First philosophy, physics, mathematics, dialectic

Aristotle continues to add to the specification of wisdom by talking about the sciences that fail to be wisdom; some of the ways of pursuing the causes of being will turn out not to lead beyond these sciences.

Already in Metaphysics A and B, Aristotle was dealing with several competing disciplines that claim to be wisdom, and that claim that their ἀρχαί are the ἀρχαί absolutely. The physicists thought that physics was wisdom, and that the first material and efficient causes of natural things are the ἀρχαί of all things; the Pythagoreans and sometimes the Academics claim that mathematics is wisdom, and that the generating principles of numbers (the One and the dyad or the like) are the ἀρχαί of all things; sometimes the Academics claim that dialectic is wisdom, and that the most universal things (perhaps being and the One) are the ἀρχαί of all things. Aristotle has raised difficulties for all these claims in B, and he has done so in order to motivate his own claim that wisdom is none of these three, but a new discipline of "first philosophy." E1, for the first time in the Metaphysics, makes something like this claim; but, as we will see, only with a series of conditions which will be removed only in the subsequent argument of the Metaphysics.

Wisdom is a theoretical rather than a practical or productive science, as we know already from A1-2 (recalled E1 1026a22-3: "the theoretical sciences are more choiceworthy than the other sciences, and this [is the most choiceworthy] of the theoretical sciences"). So in narrowing it down further Aristotle tries to distinguish it from other theoretical sciences. Aristotle, like Plato, takes the mathematical disciplines to be paradigmatically theoretical; he also makes the more controversial claim that physics is theoretical. His official argument is by exclusion: physics cannot be a practical or productive science because the objects of practical and productive knowledge have their ἀρχαὶ κινήσεως in the agent, whereas natural things have their ἀρχαὶ κινήσεως in themselves, So "if all reasoning [διάνοια] is either practical or productive or theoretical, physics would be a kind of theoretical [science] [θεωρητική τις], but theoretical about this kind of being which is capable of being moved, and about a substance-in-the-sense-of-the λόγος which is for the most part inseparable only" (1025b25-8).[13] Physics is "a kind of theoretical science, but …." This comes against the background of the Platonic assumption that physics is not a theoretical science at all. This is connected with the Platonic assumption that only dialectic gives definitions or says τί ἐστι (mathematics presumably takes over definitions hypothetically), and therefore that only dialectic is in a position to give demonstrations (mathematics gives demonstrations hypothetically), while physics is merely narrative, concerned with how things come-to-be rather than with what they are, and therefore unable to demonstrate.[14] By contrast, Aristotle asserts and argues (1025b28-1026a6, cited and discussed in Iβ2c above) that it belongs to physics, not to dialectic, to give scientific definitions of natural things.[15] This means rejecting the division of labor according to which physics deals with matter

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[13] cited from Iβ2c above, note there textual issue at 1025b28, make sure translation in both places consistent with your choice

[14] besides the Timaeus on physics as a μῦθος and at best εἰκώς, Republic VI 533b3-6 says of all the arts except dialectic and the mathematical disciplines that ἢ πρὸς δόξας ἀνθρώπων καὶ ἐπιθυμίας εἰσὶν ἢ πρὸς γενέσεις καὶ συνθέσεις, ἢ πρὸς θεραπείαν τῶν φυομένων τε καὶ συντιθεμένων ἅπασαι τετράφαται. this must include physics, presumably as being concerned with γένεσις; the context suggests that arts concerned with γένεσις are productive, and that may well be how Plato thinks of physics--the world is a divine artifact. cp. the text of PA I,1 contrasting physics with the theoretical arts and apparently implying that it is productive, which I cite in "Physics as a Virtue" and doubtless somewhere in here too; and see "Physics as a Virtue" for the Stoic view, apparently that physics is simultaneously theoretical and practical and productive

[15] the contrast with dialectic is not made explicit here, but it is in the De Anima I,1 parallel discussed in Iβ2c

and dialectic with form: it belongs to physics, not to dialectic, to grasp the forms of natural things, which are the objects of their definitions. Dialectical definitions would describe the form without reference to the matter, but Aristotle argues that the form of a natural thing cannot be known without the matter and its natural motions, and therefore that dialectical definitions cannot be scientific. "Of things-defined and τί-ἐστι-s, some are like the snub and some are like the concave," the snub being "taken-together with the matter [i.e. nose]" (1025b30-33); natural things are "said like the snub" (1025b34-1026a1) and can be defined only in the way that the snub can be defined. As Aristotle will argue in detail in Z5 (discussed below IIγ1b), this kind of definition is logically non-ideal: we cannot say what it is to be snub in general (if we define "snub" ether as "concave" or as "concave nose" we are subject to refutation); we must rather say what it is <u>for a nose</u> to be snub, and so give a definition of the form that presupposes and is inseparable from its matter. This explains the sense in which physics is "a kind of theoretical knowledge, but …", giving "definitions "but …", of forms "but …"; but these are the only kinds of science, definition, and forms that natural things can have.[16]

   Having argued that physics as well as mathematics is a theoretical science, Aristotle argues--with conditions--that wisdom is neither physics nor mathematics. As we saw in Iα3, Aristotle takes it as uncontroversial that the first ἀρχαί will be both eternal and separate, where "separate" means not "separately from matter," but "separately existing" in the sense discussed in Iβ4. It is <u>not</u> uncontroversial that the ἀρχαί are <u>unchangingly</u> eternal--they might, for instance, be Democritean atoms or Empedoclean "roots," which are subject to local motion. Mathematics will be disqualified from being the science of the ἀρχαί, <u>if</u> its objects do not exist separately. And physics will also be disqualified, on the ground that its objects are changeable, <u>if</u> there are also separate unchangingly eternal things. (This conclusion needs the premises that any separately eternal unchanging things would be prior to all changeable things, but perhaps Aristotle thinks this is obvious, or perhaps he assumes that the only way we could establish the existence of separate unchangingly eternal things is if they are causes of changeable things, and therefore prior to them.)

   Aristotle says:

> So that physics is theoretical[17] is manifest from these [considerations already given]. But mathematics too is theoretical; however, at the moment it is unclear whether it is about unmoved and separate things, but it is clear that it considers [θεωρεῖ] some objects [μαθήματα] <u>quâ</u> unmoved and <u>quâ</u> separate.[18] If there is something eternal and unmoved and separate, it is manifest that it belongs to a theoretical [science] to know it, but not to physics, since physics is about movable

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[16]for fuller discussions see both Iβ2c (on indefinability of form apart from matter) and IIγ1b (on logical difficulties of defining the snub--the application in Z5, discussed there, has nothing special to do with physics)

[17]A^bM θεωρητική τις might be right; the τις might be either alienating or not … two more minor issues, the ordering of the three adjectives at a11-12, and the γε and ἑτέρας in a13: M agrees with A^b on both

[18]I am taking ἔνια μαθήματα as objects of θεωρεῖ, ἡ μαθηματική as its subject; it would also be possible to take μαθήματα as the disciplines rather than their objects, and subject rather than object of θεωρεῖ (so Ross, and note the parallels he cites on μαθήματα), thus "some mathematical disciplines consider [their objects?] <u>quâ</u> unmoved and <u>quâ</u> separate," but the lack of an object for θεωρεῖ is odd. [NB the θεωρεῖται in Jaeger's report of J is a figment of Jaeger's imagination.] in any case, "some" must mean "except astronomy/astronomicals, which studies/are things in motion and <u>quâ</u> in motion"--unless Schwegler is right, see next note. perhaps note some other textual issues: a9 μέντοι/μὲν οὖν, a8 ἐστι, νῦν/ἔτι νῦν (here Jaeger's report is right against Ross); but both of these seem decidable on stemmatic grounds. also somewhere note the 1026a3 ἀεί issue, before this passage

things,[19] nor to mathematics, but to [a science] prior to them both. For physics is about things which are separate but not unmoved [περὶ χωριστὰ μὲν ἀλλ᾽ οὐκ ἀκίνητα],[20] and some parts of mathematics are about things which are unmoved, but perhaps [ἴσως] not separate but rather [existing] as in matter; but the first [science] is about things which are both separate and unmoved. (1026a6-16)

Aristotle is here strongly insinuating that mathematics will not be wisdom (he often uses ἴσως in a way that expresses no doubt), but he knows that he has not proved it. We will have proved that mathematics is not first philosophy only when we have examined the status of mathematical objects and shown that they do not exist separately, which Aristotle does (taking up lines of inquiry from B#5 and #12) only in M2-3; and perhaps, beyond examining the status of mathematical objects themselves, we must also examine the status of the ἀρχαί of mathematical objects, as Aristotle does in other parts of MN. Likewise, Aristotle strongly insinuates, and at the end of this passage actually asserts, that physics will not be wisdom, but once again he recognizes that he has not proved this. "If there is something eternal and unmoved and separate" (and if, as Aristotle assumes, such things will be prior to all changeable things), then the science of this object will be more intrinsically worth having, and will have a stronger claim to be wisdom, than physics. So, as Aristotle says below, "if there is some unmoved οὐσία, [the knowledge of] this is prior and first philosophy" (1026a29-30, my emphasis); but "if there is no other substance beyond those constituted by nature, physics would be the first science" (1026a27-9). Thus in order to prove that some causal chain does not lead from natural things to ἀρχαί that are objects of wisdom, it would be sufficient to show that it does not lead to anything

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[19]there seems no sufficient reason for bracketing this phrase with Jaeger, not that it adds anything. also note Schwegler's turning the second ἦ into μή--I don't think this is justified. however, it does help to explain 1026a14-15: it would be odd to say we don't yet know whether math is about separables, and a few lines later, without further argument, to say it isn't. what would the ἔνια be? maybe universal mathematics, which clearly isn't about separate universal mathematicals; although it's not obviously right to say that it's about things in matter. there's a question whether at a14-15 the ἔνια explains that at least some are about unmoved things, or that at least some are about inseparable things

[20]Reading ἡ μὲν γὰρ φυσικὴ περὶ χωριστὰ μὲν ἀλλ᾽ οὐκ ἀκίνητα, with Christ and Ross and Jaeger, for the manuscripts' (and Bekker's and Bonitz') ἡ μὲν γὰρ φυσικὴ περὶ ἀχώριστα μὲν ἀλλ᾽ οὐκ ἀκίνητα. This emendation--the most famous textual issue in the Metaphysics--is usually credited to Albert Schwegler, who at Die Metaphysik des Aristoteles (Tübingen, 1847-8), v.4 p.16 proposes to replace the transmitted ἀχώριστα with either χωριστά or τὰ χωριστά; however, one of these emendations is evidently presupposed already at Ch.L. Michelet, Examen critique de l'Ouvrage d'Aristote intitulé Métaphysique (Paris, 1836), p.162 {see my discussion in the Zeller volume}. (With the transmitted reading, ἀχώριστα would have to mean "inseparable from matter"; with the emendation, χωριστά means "existing καθ᾽ αὑτά".) The emendation is accepted by the large majority of Anglophone and German scholars, but rejected by some Francophone and Italian scholars (Aubenque initially accepted the emendation, then reversed himself, see Ια5 above); the best defense of the transmitted reading is Vianney Décarie, "La physique porte-t-elle sur des 'non-séparés' (ἀχώριστα)?", Revue des Sciences philosophiques et théologiques v.38 (1954), pp.466-8. The objections to the transmitted text are, fundamentally (1) that it is very hard to make sense of the contrast "ἀχώριστα but not unmoved," since we would expect things inseparable from matter to be moved, and furthermore (2) that, as we saw in Iβ4, "χωριστόν" in Aristotle normally means "existing καθ᾽ αὑτό", unless the context specifies separate-from-what. Décarie replies to the first objection by pointing out that mathematical things are on Aristotle's view be inseparable from matter and yet unmoved, so it would be worth saying that natural things, although inseparable from matter, are moved, unlike the mathematicals. But clearly it is mathematicals which are the exceptional case, which deserve, and get, an adversative particle when Aristotle introduces them in the next line [ἀκίνητα μέν, οὐ χωριστὰ δέ, 1026a15]; 1025b34-1026a3 have stressed, in the same breath, that natural things cannot be defined without motion, or without matter, and so if we are reminded that they are inseparable from matter it will be all-but-automatic that they are not unmoved.

separately existing and <u>eternal</u>, but showing that it does not lead to anything separately existing and <u>unchanging</u> is <u>not</u> sufficient, unless we also show that some other chain <u>does</u> lead to a separately existing unchanging cause. If there were no separate eternally unchanging things, the first science might be (say) the study of the heavenly bodies, and this possibility is not excluded until <u>Metaphysics</u> Λ.

Two things should be stressed about our passage 1026a6-16. The first is that it is not just a neutral classification of the theoretical sciences, although it was often used this way by later philosophers: it has the specific function of excluding physics and mathematics from being wisdom, against real opponents who did think one of these sciences was wisdom. The second is that physics and mathematics are being excluded on different grounds, not on two degrees of the same ground.[21] On the transmitted and traditionally accepted reading, physics would be about things that are moved and inseparable, mathematics about things that are unmoved but inseparable, first philosophy about things that are unmoved and separate. "Separate" would then have to mean "separate <u>from matter</u>," and the different sciences would be characterized by different degrees of separation of their objects from matter, mathematics abstracting from matter in such a way that these abstractions are eternally unmoved without having a real existence apart from matter, and first philosophy dealing with things really existing apart from matter. In fact, however, only mathematics that falls short of wisdom on the ground that its objects are inseparate, while physics falls short on the different ground that its objects are moved, as in K1 1059b12-14, "but the science we are now seeking is not about the mathematicals, since none of them is separate; nor is it about sensible οὐσίαι, since they are corruptible" (cited in Iα3 above). The difference from K1 is that E1 does not say (falsely on Aristotle's own grounds, though he says the same thing at B#8 999b4-5) that all sensible οὐσίαι are corruptible, but only that they are all movable; but then the inference that they are not objects of wisdom is no longer automatic.

Aristotle's preferred causal chain for reaching eternally unmoved ἀρχαί is, of course, from sublunar things to the heavenly regulators of sublunar cycles, and then from the heavenly bodies to their incorporeal movers. This preferred chain comes through in his description in E1 of the "separate and unmoved things" that first philosophy is about: "all causes must be eternal, but especially these, for these are causes to the manifest divine things [i.e. to the heavenly bodies]. So there would be three theoretical philosophies, μαθηματική, φυσική, θεολογική: for it is not unclear that if the divine exists anywhere, it is in this kind of nature, and the most valuable [science] must be about the most valuable genus" (1026a16-22).[22] The movers of the heavens will themselves surely be divine, but here what Aristotle seems to be saying is that this science

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[21]these claims are directed, not just against much traditional interpretation of E1, but also against Philip Merlan, <u>From Platonism to Neoplatonism</u>, esp. pp.59-62 (but also through p.73), who says that the threefold classification here comes from a Platonic tripartition of sensible things, mathematical things, and Forms, with corresponding sciences, and that Aristotle has no legitimate grounds within his own philosophy to reassert this tripartition … it's not esp. close to Plato, a tripartition of physics, mathematics and dialectic would be closer to Plato, but Aristotle's first philosophy is none of these (if you say it's about separate unchanging things and Plato believes, albeit falsely, that the Forms are such, well, Plato also believes, falsely, that the mathematicals are such) … Merlan, who rightly accepts the emendation and the consequent reconception of "separation," sees that Aristotle is using a 2x2 classification, but thinks this is illegitimate because one dimension is based on a <u>ratio essendi</u>, the other on a <u>ratio cognoscendi</u>; even if this were true it wouldn't make the classification illegitimate (although note Merlan's more particular challenge p.72), but it's not, Merlan misinterprets abstraction, mathematicals are distinct objects with their distinct <u>ratio essendi</u>, they're just not separate

[22]text-notes: esp. the oddity of the reported alternative reading αἰσθητῶν at 1026a18. M agrees with A[b] throughout this passage

has the best right to be called θεολογική because it is about the <u>causes</u> of the only genus of divine things whose divinity is manifest to us. There is an implicit contrast with Academic programs of finding the ἀρχαί as the causes of <u>numbers</u>--Xenocrates claimed that the numbers were divine and even that they were the true meaning of the mythical gods (Zeus is the monad and the Mother of the Gods is the dyad, Fr.213 Isnardi-Parente), but this is a dubious piece of speculation and far from manifest to us (Aristotle counter-claims that the heavenly bodies are the true meaning of the mythical gods, <u>Metaphysics</u> Λ8 1074a38-b14).[23] Perhaps there is also a contrast with Platonic dialectic, since Plato repeatedly contrasts the Forms to their sensible imitations as divine to human things (<u>Republic</u> X 597b5-14, <u>Parmenides</u> 134d9-e8, <u>Philebus</u> 62a7-11), and once again Aristotle rejects such dubious divine posits ("[the Platonists] say that there is a man-himself and horse-itself and health-itself, and nothing else, doing something close to those who said that there were gods, but in human form: for neither did those people [the poets] make [the gods] anything other than eternal men, nor do these people [the Platonists] make the Forms anything other than eternal sensibles" B#5 997b8-12, cited in Iα4 above). Whether for Plato or Xenocrates or Aristotle, the language of divinity is used to claim a privileged status for the favored science, and to challenge the claims of the poets; this description is not constitutive of the science, and "θεολογική" is an attribute rather than the proper name of Aristotle's first philosophy. Aristotle is nonetheless perfectly serious. He is not saying that his discipline is θεολογία--the θεολόγοι are the mythologizing poets, θεολογία is what they do, and it is far from being a science[24]--but in calling his discipline θεολογική and contrasting it with φυσική, he is inevitably recalling the ancient quarrel between θεολόγοι and φυσικοί. Like Plato in <u>Laws</u> XII (966d6-968a1), Aristotle is saying that while the beginnings of physics tended to banish the divine from the world and specifically from the heavens, the progress of physics and the realization that the heavenly motions are governed by precise mathematical laws leads us to a restoration of the divine, understood in a higher way than the poets had understood it, and to knowledge of a realm superior to the physical. As far as we could tell from <u>Metaphysics</u> E1, "divine" might be understood in quite a loose sense ("sharing some traditional attributes of the gods, e.g. eternity and perfection"). In fact Λ7 will argue, delivering on a promise from A2, that the first ἀρχή falls under a precise concept of a god,[25] but this goes beyond the promises of E1, which speaks only of the divine and not of gods.

   Although E1 1026a16-22 thus suggests Aristotle's preferred causal path to the ἀρχαί, at the current stage of the argument he cannot yet establish precisely the nature of wisdom. In particular, nothing he says in E1 rules out the possibility that if there is a third science superior to mathematics and physics, that science will be Platonic dialectic. We have seen that much of his description of the desired science at the beginning of E1 echoed things Plato says about dialectic in the <u>Republic</u>. And, if Plato were right about the status of dialectic, dialectic would be first philosophy. When Theophrastus says that Plato "concerned himself mostly with first philosophy, [but] also applied himself to the phenomena and touched on περὶ φύσεως ἱστορία" (Fr.230 FHS&G), it was presumably dialectic (perhaps also mathematical speculation) that Plato was mainly pursuing. Aristotle, of course, denies that dialectic is any science, let alone the most valuable science. But we should not conclude that Plato and Aristotle are using "dialectic" to refer to two different disciplines. The <u>Republic</u> and the <u>Topics</u> are describing the same practice

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[23]in all fairness, Xenocrates too identified the heavenly bodies, and various other parts of the cosmos or things present in them, with gods (see subsequent fragments in Isnardi-Parente). the numbers still have the priority
[24]see Bodéüs for a survey of the evidence
[25]see IIIγ2

of attempting definitions and attempting to refute them by questioning; both Plato and Aristotle had participated in this practice in the Academy, but they disagree about its status. For Plato it produces a scientific grasp of the eternal separately existing οὐσίαι of things, the Forms. For Aristotle, there are no such Forms, and so there can be no science of them. There are indeed forms which are οὐσίαι of sensible things (individual forms which are not eternal, and species-forms which are eternal but do not exist separately from the individuals), and there can be a science of these forms, although that science falls short of being first philosophy. But, as we saw above, Aristotle thinks that dialectic is not that science, and does not produce a scientific grasp of these forms; rather, the scientific definition of the form of a natural thing will be one that grasps it as inseparable from its matter, and will be the work of physics rather than of dialectic. Aristotle has quickly sketched an argument at E1 1025b28-1026a6 that natural things need physical definitions, but that passage, and E1 generally, never even use the word "dialectic." The conclusion that dialectic is not first philosophy will rest, not on E1's brief description of the different disciplines, but on Z's careful examination of the causal routes that are supposed to lead from natural things to separate eternal Forms as their οὐσίαι, and its arguments that these routes do not succeed.

What E1 does, then, is to raise aporiai suggesting that physics, mathematics and dialectic are not first philosophy, and to suggest the pursuit of a new causal route that will lead from the manifest things to separate unchanging causes. Proof that one route succeeds and that others do not must wait for later books of the Metaphysics. In a sense, E1 is just restating the aporia from B#5. The parallel is perhaps clearest from the shorter formulation of the aporia in K, asking "whether the science we are now seeking is about the sensible οὐσίαι or about some others; if it is about others, it would be either about the Forms or about the mathematicals. But it is clear that there are no Forms …. But the science we are now seeking is not about the mathematicals, since none of them is separate; nor is it about sensible οὐσίαι, since they are corruptible" (K1 1059a39-b3, b12-14, cited in Iα3, and in part above). To say that the science we are seeking is not about sensible οὐσίαι, mathematicals or Forms is to say that wisdom is not physics, mathematics or dialectic, the only disciplines that had been proposed. Of course K1 is just raising an aporia, and neither proposes a solution (a new discipline of first philosophy, with new non-sensible οὐσίαι as its objects) nor gives anything like a conclusive argument that the old disciplines cannot be sciences of separate eternal things.[26] We might also wonder why we could not just say that there are no separate eternal things, and thus no ἀρχαί in the strict sense at all (presumably the answer is that "if there is nothing eternal and separate and abiding" there would be no stable cosmic order, so K2 1060a26-7 [in the K parallel to B#8], closely echoed at Λ10 1075b24-7). But for all these limitations the aporia is pointing the way to a new science. E1 is taking up the aporia, in something more like the K than like the B formulation, and proposing to solve it by developing a new science of first philosophy that will avoid the difficulties against the old disciplines, and proposing to get to this new science by studying the causes of being, in its various senses, and seeing which of them lead to separately existing unchanging substances. The positive answer to the aporia is not completed until Λ, so in a sense Metaphysics E-Λ are all devoted to B#5; but they deal with many other aporiai en route, and are guided by other aporiai in working toward solving B#5.

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[26]this passage simply asserts without argument that there are no Forms, and its argument against mathematicals, parallel to the argument in B#5, is far from decisive; and, as noted above, it is not true on Aristotle's own account that all sensibles are corruptible. for discussion of these issues in K, see Iα5 above and its appendix on K

Universal because first

The term "first philosophy" seems to get its meaning mostly by contrast with the other parts of philosophy, and especially with physics. If there were no separately existing unchanging substances, then in theory there would still be a first philosophy, but it would simply be physics--"if there is no other substance beyond the ones constituted by nature, physics would be [the] first science" (E1 1026a26-8)--and there would be no need for the special title "first philosophy." Except in this passage, Aristotle uses "first philosophy" (or equivalents such as "first science") only for a science of separate unchanging οὐσίαι. The present passage, E1 1026a23-32, is the first place in the Metaphysics where "first philosophy" (or the equivalent) is thematized, although there are two more incidental mentions in Γ (see below), as well as the references outside the Metaphysics collected in the appendix to Iα1 above. It is clear from E1 1026a22-3 ("the theoretical [sciences] are more choiceworthy than the other sciences, and this [sc. θεολογική, as about the most valuable genus] than the theoretical [sciences]") that the description of first philosophy is intended as a stage in the process begun in A1-2 of progressively defining wisdom more and more precisely; and in any case we know from ethical texts that wisdom is about the most valuable or divine genus (thus "wisdom is ἐπιστήμη and νοῦς of the things which are most valuable [τιμιώτατα] by nature," NE VI,7 = EE V,7 1141b2-3, cited in the appendix to Iα1). Thus "first philosophy" and "wisdom" are coextensive; in general, Aristotle calls it "wisdom" in ethical contexts, where he is contrasting it with intrinsically less valuable ἕξεις, and "first philosophy" in physical contexts, where he is contrasting it with physics as two sciences with different subject-matters (again, see the Iα1 appendix).

What is perhaps less immediately clear is that first philosophy will also be identical with the "science of being quâ being" from Γ.[27] Although E1 starts by referring back to this science, and goes on to talk about first philosophy, it is at first sight not obvious that the universal science will be identical with first philosophy--it might instead "divide" into physics and mathematics and first philosophy, as mathematics "divides" into arithmetic and geometry and so on. This view of the relationship of the disciplines might be supported by a passage from Γ: "there are as many parts of philosophy as there are [kinds of] οὐσίαι, so that there must be first and a second among them. For being immediately has [i.e., divides into] genera; for this reason the sciences too will follow these. For the philosopher is like the so-called mathematician: for it [sc. mathematics] too has parts, and there is a first and a second science and the others in sequence among the mathematical [disciplines]" (Γ2 1004a2-9, cited in Iβ2b).[28] However, a later passage in Γ suggests that wisdom will be identical with the universal science of Γ1-2. Aristotle is saying that it belongs to the person who studies being quâ being to consider universal truths such as the principle of noncontradiction; "for which reason none of the particular investigators tries to say anything about them, or whether they are true or not, neither a geometer nor an arithmetician, but some of the physicists did, and it was reasonable for them to do this: for only these [sc. the physicists] thought they were investigating about all of nature and of being. But since there is someone even above the physicist (for nature is some one genus of being), the investigation of

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[27]see discussion in earlier sections (where exactly?) of how many sciences are named by "wisdom." "first philosophy," and "science of being quâ being," against Aubenque, Stevens (and Leszl), and Dorion, who, while they say different things about "wisdom," agree that first philosophy is not the same as the science of being quâ being. if my interpretation of Γ1, given in Iβ2 above, is correct, then the science treating being quâ being, introduced in that chapter, must be the same as the wisdom or science of the ἀρχαί from AB, so if first philosophy is identical with one of these, it must be identical with the other

[28]see the discussion of issues about this passage (its text, its place in the sequence of Γ2, its interpretation) in Iβ2b

these things too would belong to the person who considers universally and about the first [kind of] οὐσία; for physics too is <u>a</u> wisdom [σοφία τις], but not the <u>first</u>" (Γ3 1005a29-b2, cited in Iβ2b).[29] Is the person above the physicist someone who studies a <u>more universal</u> genus than nature, or someone who studies a <u>nobler</u> genus than nature? Apparently both, since he investigates both "universally" and "about the first [kind of] οὐσία." Presumably the way this would work is that the person who studies unchanging οὐσίαι will also know the universal truths about all beings which they somehow cause, and will come to know the causes just through studying these effects, e.g. he will first know the law of noncontradiction, will recognize that this law depends on an eternally unmoved cause, and will infer that there is such a cause; the end of Γ8 (1012b22-31) sketches such an argument, but it leaves the details vague.[30]

In any case, whatever we might have thought about the object of first philosophy from Γ, E1 explicitly raises the question, and answers it:

> Someone might raise the aporia whether first philosophy is universal or about
> some one genus and nature--for [it does not always work] the same way even in
> mathematics: geometry and astronomy are about some [particular] nature, but
> universal [mathematics] is common to them all. So if there is no other οὐσία
> beyond the ones constituted by nature, physics would be [the] first science, but if
> there is some unmoved οὐσία, [the knowledge of] this is prior and first
> philosophy, and universal in this way, by being first [καθόλου οὕτως ὅτι πρώτη]:
> and it would belong to this to consider being <u>quâ</u> being, both what it is and what
> belongs to it <u>quâ</u> being. (E1 1026a23-32)[31]

Just before this passage Aristotle has said that the most valuable science will be about the most valuable and divine genus: on this description the first philosophy will be about a different genus from physics, as among the mathematical disciplines arithmetic is about a different genus from geometry. But, an objector points out, even in mathematics this is not the only way that a prior and a posterior discipline can relate. Geometry is prior to astronomy and explains the truth of some propositions about astronomical things, by being about prior geometrical things: a theorem about spherical triangles (say) will apply in the first instance to unmoved geometrical spherical triangles, and only for that reason to moving astronomical spherical triangles. But universal mathematics is also prior to geometry and astronomy, and explains the truth of some propositions about geometrical and astronomical things, not by having its own domain of objects, but simply by demonstrating universal propositions (about proportions and the like, as in Euclid <u>Elements</u> V) which apply equally to lengths, speeds, and all other species of quantity. So, if we are seeking a science of being <u>quâ</u> being, might this be analogous to universal mathematics, being prior to all the particular sciences without having its own particular object-genus?[32]

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[29]again see discussion in Iβ2b

[30]for discussion of the person above the physicist, and how he relates to principles such as the law of non-contradiction, see Iβ2b

[31]text-notes, nothing major: maybe the main issue is ἡ vs. ἐκείνη in a27 (and perhaps τινα should be omitted in a25). M agrees with A^b throughout this passage

[32]Aristotle is clearly considering two possible mathematical models for first philosophy: it is either a science of some particular genus, like geometry and astronomy, or it is universal, like universal mathematics. each model would be connected with a way of thinking about the priority-relations of first philosophy to other philosophical disciplines. it is less clear whether the text is explicitly mentioning these different kinds of priority-relations: when he says "geometry and astronomy are about some particular nature," does he mean "first philosophy might be to

Indeed, this would be the most natural view to take out of Γ2 1004a2-9. But here Aristotle's answer is that first philosophy is indeed universal, but "in this way, by being first" (οὕτως looks forward and is picked up by ὅτι πρώτη): that is, because it is concerned with the ἀρχαί, the first things, and because the ἀρχαί are causes, to all things, of the fact that they are and of the attributes that belong to them because they are, the first philosopher will also have scientific knowledge of being and its universal attributes. Of course the first philosopher will start from the effects, being and its attributes, but he will have scientific knowledge of them (or, anyway, his knowledge of them will be first philosophy) only when he has traced them back to the ἀρχαί as their causes.

The aporia that Aristotle is addressing here might be seen as a version of B#3, "is there one or are there many sciences of all the [kinds of] οὐσίαι? if there is not just one, what kind of οὐσία should we say that this science is about?" (997a15-17). In Iβ2b I noted that there is some ambiguity in this aporia, and in the connected B#4, asking whether this science is only about οὐσίαι or also about their συμβεβηκότα: "an οὐσία" here is some kind of domain of being, but it is unclear whether the different οὐσίαι are the different categories (whose συμβεβηκότα might be unity and plurality and the like), or whether the different οὐσίαι are different genera within the category of substance (and their συμβεβηκότα are in the nine categories of accidents). I argued in Iβ2b that B#3-4 do not introduce the theory of categories and so leave this issue indeterminate, but that Γ1-2 bring the theory of categories to bear on the aporiai. If we take the different οὐσίαι of B#3-4 to be the different categories, then Γ1-2 say that there is a single science of all of them and also of the per se attributes of being, because being is said πρὸς ἕν, so that accidents exist derivatively from substances, and so in studying the causes of substances we will also at the same time be studying the causes of all beings and of their common attributes; whereas, if we take the different οὐσίαι to be the different genera of substance, Γ2 1004a2-9 seems to answer that there will be different sciences of the different οὐσίαι, a first and subsequent philosophies, and that "philosophy" as what treats them all will be only generically one science. E1 does not worry about whether wisdom can treat all the categories, but we might take it as answering B#3, with "οὐσίαι" construed as "genera of substance," by saying that wisdom is about the first unmoved substances, and is therefore also about all kinds of substance: this answer would contrast with Γ2's answer to the present question, how many sciences there are of different genera of substance, but would resemble Γ2's answer to how many sciences there are of things in different categories, but unlike. (But there is no suggestion, in Γ2 or E1 or elsewhere, that "οὐσία" is said anything but univocally of the different genera of substance: equivocity plays no role in generating the aporia, and πρὸς ἕν predication plays no role in solving it.)

However, there is an important difference between the aporia that Aristotle is answering here and the aporia he raised in B#3. As I noted in Iβ2, when Aristotle presents the aporiai continuously in B1, B#2 asks "does it belong to the science to consider only the ἀρχαί of οὐσία or also the ἀρχαί from which everyone demonstrates?" (995b6-8), and B#3 picks up the first half of the antithesis by asking "if it is about οὐσία, then is there one [science] of all [kinds of οὐσία] or are there several, and, if there are several, are they all of a kind, or are some of them to be called σοφίαι and the others something else?" (995b10-13). This seems to imply that B#3's question "what kind of οὐσία is wisdom about?" means "what kind of οὐσία does wisdom know the ἀρχαί of?". Aristotle is not answering this question by saying "wisdom is the science of

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physics as geometry is to astronomy," or just "first philosophy might be like geometry and astronomy"? the passage is usually taken the second way, but Michel Crubellier and Pierre Pellegrin, in Aristote: le philosophe et les savoirs (Paris, 2002), pp.388-9, take it the first way, and they may well be right

eternally unmoved οὐσίαι", unless eternally unmoved οὐσίαι themselves have ἀρχαί and causes: Aristotle's Academic rivals believe this, but he does not, and he is not calling for an investigation of such ἀρχαί in E1.[33] Rather, he is saying that eternally unmoved οὐσίαι will themselves be ἀρχαί of all other οὐσίαι (and thus of non-οὐσίαι as well). For this reason it is better to take E1 as addressing B#5, in something like the K version (cited above), where it is a "methodological" aporia, asking what objects wisdom will be about, natural things or mathematicals or Forms: here the question "what οὐσίαι will the science we are seeking be about?" means "what kind of οὐσίαι will the ἀρχαί themselves be?", and E1 is proposing programmatically that they will be neither natural or mathematical things, nor Forms, but some other kind of eternally unmoved οὐσία. However, to the question "what kind of οὐσία does wisdom know the ἀρχαί of?", the answer is that the desired ἀρχαί will be ἀρχαί of all οὐσίαι, both moved and unmoved, or rather that they ἀρχαί will <u>be</u> unmoved οὐσίαι and will be ἀρχαί <u>of</u> moved οὐσίαι. The suggestion of Γ2 1004a2-9, that philosophy immediately divides according to the genera of οὐσία, that each genus falls under its own science and no two under the same science, would be correct if the ἀρχαί of each genus fell within that same genus, and so no two genera could share ἀρχαί (except that they might have ἀρχαί which are <u>analogically</u> the same, which might be treated by a universal philosophy without its own distinctive domain, as theorems of proportion theory which hold analogically of discrete and continuous quantity can be treated by a universal mathematics without its own distinctive domain). This is what Speusippus thought, and he was right against Plato that formal and material causes cannot cross domains, especially not between moved and unmoved οὐσίαι, but Aristotle will argue in Λ (anticipated here with the talk of "causes to the manifest divine things") that efficient and final causes do cross domains, and give us a way up from natural things to the first unmoved ἀρχαί. As he will say in Λ1, "these οὐσίαι belong to physics (since they have motion), and this [sc. unmoved οὐσία, claimed by some philosophers] to a different [science], <u>if there is no common</u> <u>ἀρχή</u> to [both kinds of οὐσία]" (1069a36-b2): but since there is a common ἀρχή, or since an ἀρχή which <u>is</u> one kind of οὐσία can be an ἀρχή <u>of</u> the other kind of οὐσία, natural things, besides falling under physics, can also fall under first philosophy just to the extent that there is some causal chain leading up from them to an unmoved ἀρχή.[34] E2-4, and the subsequent books of the <u>Metaphysics</u>, will have to investigate whether there is such a causal chain and what it might be.

<center>On some objections to <u>Metaphysics</u> E</center>

I have put off until now considering some objections to <u>Metaphysics</u> E or to its present place in the <u>Metaphysics</u>, because I think that these objections do not have much force once we have seen how E is supposed to work. A few scholars, following Natorp, continue to think either that E is spurious or else that crucial parts of E (some or all of E1 1026a23-32) are spurious interpolations.[35] They are motivated chiefly by objections either to E1's description of first

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[33]there is a weak sense in which the mover of the daily motion is the ἀρχή of, i.e. is prior to, the movers of the other celestial motions, but it does not seem to be in any sense a cause of them, whether material or formal or efficient or final, despite attempts that have been made (e.g. by Fârâbî and Avicenna and Thomas) to make it an efficient cause; see discussion in Part III. anyway Aristotle is certainly not suggesting any such relation in E1

[34]see discussion of this sentence in IIIβ1; its interpretation has been disputed

[35]references: the original Natorp articles (should be cited in Iα1), Annick Stevens' book, also Leszl in <u>Aristotle's Conception of Ontology</u>, also Emmanuel Martineau, "De l'inauthenticité du livre E de la <u>Métaphysique</u> d'Aristote," <u>Conférence</u>, vol.5, automne 1997, pp. 445-509. note that Natorp (and some of the others?) held a double version: he

philosophy as a science of separate immaterial substances, or, if they are willing to accept that, then to its identification of such a first philosophy with the science of being quâ being from Γ or (implicit in E1 1026a22-3) with the "wisdom," the most intrinsically valuable of the theoretical sciences, from A1-2. (Jaeger 1923 {ref} agrees with Natorp that the identification of θεολογική with the science of being quâ being is philosophically indefensible, but he nonetheless thinks that Aristotle himself made this identification in a hopeless attempt to paper over the differences between the conceptions of wisdom in ABΓ and in ZHΘ.) However, there is nothing objectionable in what E1 says (namely that first philosophy is about separate unchanging οὐσίαι which are causes of being quâ being), and it would also do no good to get rid of E1, since Aristotle consistently maintains that "wisdom" (in ethical contexts) or "first philosophy" (in physical contexts) is about the most valuable and divine things, and since Γ1 and other texts say that wisdom, i.e. the science of the first ἀρχαί announced in A1-2, will be a science of (the causes or ἀρχαί of) all beings or of all οὐσίαι.[36]

   A larger group of scholars accept the authenticity of E but deny that Aristotle intended it for the role it clearly plays in the Metaphysics as we now have it, as an introduction to the study of substance in ZH and of potentiality and actuality in Θ. For the most part, this objection is not really directed at E, but is a byproduct of Jaeger's view (upheld more recently by Frede-Patzig) that ZHΘ were not originally intended to be part of the Metaphysics (that is, of the projected treatise beginning with AB), but were inserted later in their present place. I will discuss (and explode) this view later in talking about ZH in Part II and about Θ in Part III. For now, it is enough to recall from Iα5 some of the main points at issue. Against Brandis and Bonitz, who thought that ABΓEZHΘ were the "main series" [Hauptreihe] of the Metaphysics, and that the other books were originally independent treatises, Jaeger in the Studien zur Entstehungsgeschichte der Metaphysik des Aristoteles of 1912 argued that ABΓE and also the "fragments" Iota and MN belonged to a "main lecture course" [Hauptvorlesung] united by a pursuit of wisdom as a science of suprasensible reality and also by the aporiai of B, and that ZHΘ are not part of this project, but pursue a conception of wisdom as a universal science of being. (We will see in Parts II and III that ZHΘ are pursuing the same conception of wisdom as the other books, and continue to be guided by the aporiai of B). Now if ZHΘ were originally written for another purpose, and were later inserted into the Metaphysics, this might have been done either by Peripatetic editors (as Jaeger thought in 1912) or by Aristotle himself (as Jaeger thought in his Aristoteles of 1923). If it was Aristotle himself who inserted ZHΘ into the Metaphysics, then there would be no need to deny that E was originally written for its present purpose as an introduction to ZHΘ within the ongoing argument of the Metaphysics: Aristotle could have written E as to bridge the transition from the earlier books of the Metaphysics to the newly inserted ZHΘ. On the other hand, if we think that post-Aristotelian editors inserted ZHΘ into the Metaphysics, then we must either credit them with writing E, or hold that Aristotle

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thought both that E was spurious and that the crucial passages in E1 were interpolations anyway. one also sometimes hears that E (or E1) is a doublet of Γ1-2, but for reasons noted above this is wrong. E has no concern with the question whether a single science can treat beings in different categories; Γ has no concern with distinguishing the science we are seeking from sciences of changeable or inseparable things. [Jaeger 1912 pp.164-88 notes that E begins without a connecting particle, and says that it is independent of Γ and covers the same ground; this seems to contradict things he says elsewhere, or am I missing something?]

[36]see discussions above, starting in Iα. texts on wisdom or first philosophy as about the most valuable or divine kind of substance are collected in the appendix to Iα1, and see the discussion of Γ1-2 as answering B#3-4 in Iβ2b. also ZH say that their inquiry is about οὐσία, or about its causes and ἀρχαί (so H1), and Z11 1037a13-17 and Z17 1041a6-9 make it clear that that inquiry is first philosophy or a search for οὐσίαι separate from the sensible ones

intended E as something other than an introduction to ZHΘ. The latter hopeless position, held by Jaeger in 1912 but recanted by him in 1923, is indeed maintained by Frede-Patzig in their introduction to Metaphysics Z (FP I,28). The main grounds they give for connecting E with ABΓ rather than with ZHΘ (namely, that E1 seems to build on the results of Γ1-2, and that K gives a parallel to BΓE in sequence) are perfectly acceptable, but they do nothing to break the link between E and ZHΘ unless we already believe that ZHΘ are not part of the same treatise with ABΓ.[37] But it is clear enough that E could never have existed except as an introduction to something like ZHΘ: E is too short to be an independent book,[38] and it states a program for examining causes of being in four senses, and then discusses and dismisses two of them, obviously as an introduction to a detailed examination of the other two. Jaeger in 1912 suggested that although E was meant to lead into a study of substance, that was a study of supersensible substance, not the study of sensible substance now linked to it in Z;[39] but this misses the point that E is introducing a study of the causes of being, to see whether they lead to supersensible substances, and this requires that we begin with sensible substances, as in Z.

None of this means that Aristotle wrote E before he wrote ZHΘ. It would not be surprising if he had written ZHΘ first and then gone back to write the introduction.[40] For now we must even leave open the possibility that when Aristotle first wrote ZHΘ he did not intend them as part of the treatise on wisdom beginning ABΓ, although when we examine ZHΘ in detail we will see that there is no reason at all to believe this. What matters for now is that Aristotle's final intention, and his intention when he wrote E, was that E should be both a continuation of AB's search for a wisdom superior to physics, mathematics and dialectic (and a step in the execution of Γ's program of a science of being quâ being) and also an introduction to ZHΘ: in other words,

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[37]Frede-Patzig also maintain that there is a contradiction between Z (especially Z11) and E1, in that E1 maintains that natural things must be defined "like the snub," with an essential reference to matter in their definition, whereas Z11 allegedly maintains the opposite; but this depends on a perverse reading of Z11, which will be dealt with in its proper place

[38]at two and a half Bekker pages it is much the shortest book of the Metaphysics after α (a little under two pages); the only other book that's comparable is H, three and a half Bekker pages, and that should be seen as a continuation (or "completion," its own term at 1042a4) of Z {I can't immediately think of any other Aristotelian books this short, except the dubious Eudemian Ethics VIII and maybe Physics VII--I guess Topics III and VII are fairly short, but again they seem like overflows from II and VI; some of the Parva Naturalia are also very short, but it depends how you count them. also very short books in the Problemata, but the book-division here is a special case, see Burnyeat on this}. (I have an updated version of this note in the Burnyeat review)

[39]hard to give a page-reference; this is strewn over pp.101-13

[40]here it is worth thinking about the transmitted last sentence of E, a merely verbal variant on the first sentence of Z. this might simply be the phenomenon of "Kustoden"--where a scribe will add onto the end of a scroll the first few words of the next scroll, so you will know which one to fish out next; see Jaeger 1912 for discussion, Ross has a summary in his preface to the Metaphysics: this occurs in at least some manuscripts of the Metaphysics at several book-junctures, and at least sometimes occurs elsewhere (Politics III is linked to Politics VII in this way). however, here the repetition is not verbatim, and that raises questions; Jaeger 1912 says that this represents an intervention by early Peripatetic editors to link E with Z by suggesting a plausible transition of thought, more interventionist than a mere scribal Kustode, and that later editors would not have dared to tamper with Aristotle's text in this way. as of 1923, since he now thought Aristotle himself had linked E with Z, I suppose he must have given this up. (Jaeger in his 1957 OCT of 1957 says that it was added by an editor after Δ had been inserted, but he also says this about the beginning of Z). it is a curious textual situation though. perhaps, if Aristotle wrote E after ZHΘ as an introduction, he himself wrote these words to make a continuous transition to Z, intending to replace the original first sentence of Z, but the original first sentence wound up being transmitted as part of Z anyway. (you might say that the last sentence of E is just a varia lectio for the first sentence of Z, but that seems unlikely--"φανερὸν δ᾽ ὅτι" would be quite unceremonious for the opening of a book). Marwan Rashed has some further examples and discussion of Kustoden in his article in Laks-Rashed on the De Motu Animalium.

that at least ΑΒΓΕΖΗΘ should be part of a connected treatise pursuing wisdom.[41] The role of Δ remains to be seen.

Iγ1b: The aims of Metaphysics Δ

As I have said above, my main concern will be with Δ7, on the meanings of being, since this plays a decisive role in structuring the subsequent argument of the Metaphysics; I will return to discuss a number of other chapters of Δ when and as they are used in later books of the Metaphysics. However, it will be helpful to set Δ7 in its context by saying something about the aims of Δ as a whole and about the methods that Aristotle applies in a typical chapter; and the consideration of Δ as a whole is particularly important because, although everyone seems to agree that Δ is authentic, it has been an extremely widespread view since Brandis and Bonitz that Δ was originally an independent treatise and was not intended as part of the Metaphysics.[42]

There are few positive arguments that Δ is not an original part of the Metaphysics, and it is generally very easy to answer them.[43] The real problem is rather that, to many readers, Δ simply

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[41]Jaeger 1923, ET pp.202-4, holds that E1 was part of an original Metaphysics continuous with ΑΒΓ, and that Aristotle added E2-4 as a bridge-passage when he incorporated ΖΗΘ into the Metaphysics {bit of a complication, since a version of E2-4 are in K, which he thinks is pre-Z, but anyway they've been reworked to serve as a transition} (Jaeger also thinks that E1 1026a23-32, "universal by being first" and so on, were added at the same time, to connect the "theological" ΑΒΓΕ1 with the "ontological" ΖΗΘ, pp.215-19, but this is hopeless). this would do no harm if true. but again, E1 is programmatic, and programmatic for a study of the causes of being, not for a study of supersensible substances ungrounded in their manifest effects; it must always have been intended to lead into something rather like ΖΗΘ. Jaeger's only real argument that E did not precede Z at the time Z was first written (apart from the alleged contradiction between their conceptions of wisdom) is that, if E2 had preceded, then the opening of Z, "τὸ ὂν λέγεται πολλαχῶς, καθάπερ διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς" (1028a10-11), would have "referred his readers to the full and detailed discussion of the meanings of 'being' there given [i.e. in E2--rather than to Δ7 as now], or he would not have enumerated these meanings at all, because every one would have them in mind" (p.203). this is the purest nonsense; in fact the discussion in Δ7 (half a Bekker page) is much fuller than the treatment at the beginning of E2 (7 lines), a bare list without explanation, which is merely a summary of Δ7 and in fact refers back to it (being is said in many ways, one of which was being per accidens, E2 1026a33-4)

[42]this is usually taken for granted, rather than argued for. Reale argues against the common assumption in the chapter on Δ in his Concept of First Philosophy and the Unity of the Metaphysics of Aristotle; Kirwan in his Clarendon ΓΔΕ seems to be agnostic. note also McInerny in the Owens Festschrift (Graceful Reason, edited by Gerson) on Thomas on Δ, building on Reale

[43]{with this note now compare appendix to Princeton paper} while most people seem to think it has been established (by someone else) that Δ was not originally part of the Metaphysics, if you ask them who established this and where, you may be sent to Ross or Jaeger, but they will mostly send you back to Bonitz, who does not say much either. the only attempts at systematic argument I have found are Bonitz II,18-20, and then Jaeger 1912 pp.118-21, who however mostly refers to Bonitz; Ross has some very quick remarks at AM I,xxv. checklist of arguments, all of which will be answered below: from Jaeger (i) interrupting "without motivation" the series of aporiai [this is based on a mistaken allocation of aporiai between Γ and E]; (ii) the omission of Δ from the K parallel [easy to answer as below]; (iii) independent transmission; (iv) ἐν ἑτέροις and the like [this is the only argument that needs more than a two-line answer; raise question of identity-conditions for "same work," and note the references at the beginnings of Z and Iota, note Burnyeat thinks he can handle these; also H3 1043b16 refers to Z8 as ἐν ἄλλοις, although Burnyeat and FP will just take that as evidence that Z7-9 are a later insertion; also the SE 165b6/10 refs to the Topics, what else?]. from Bonitz (i) "eiusmodi … descriptio, quoniam nec pertinet ad ipsam quaestionem, nec quae sit propria et primaria vocabulorum singulorum notio decernit, praemitti debet disputationi, non interponi"; (ii) against Alexander, Γ2 1004a28-31 isn't promising Δ, which is merely distinguishing words and not talking about the notiones/Begriffe themselves; (iii) the K parallel; (iv) some useless terms and some odd omissions; (v) no definite rule either of selection or of order of terms, less subtle treatment than Physics or Metaphysics. all Ross adds are (i) "not preliminary to Metaphysics in particular" and "some of the notions discussed in it (κολοβόν, ψεῦδος) are not appropriate to the Metaphysics", (ii) claim that works outside the Metaphysics also refer to Δ.

does not <u>look</u> like part of the <u>Metaphysics</u>, but like an independent work that has accidentally been transmitted in the middle of a larger treatise. To see how far this impression is justified, we have to see how far Δ functions in the ongoing argument of the <u>Metaphysics</u>: how far earlier books demand it, how far later books use it, and how far its own internal structure and argument (so far as it has any) are determined by its function within the <u>Metaphysics</u>. External evidence does have some relevance. As is often noted, two of the ancient catalogues of Aristotle's works list a one-book treatise Περὶ τῶν ποσαχῶς λεγομένων ἢ [τῶν] κατὰ πρόσθεσιν;[44] since Aristotle in the <u>Metaphysics</u> cites what seems to be Δ as ἐν τοῖς περὶ τοῦ ποσαχῶς (Z1 1028a10-11, Iota 1 1052a15-16), this work is probably Δ.[45] But that shows only that Δ was sometimes transmitted by itself, which is interesting but hardly surprising given its content; these catalogues also list amidst the works on dialectic a Περὶ τοῦ αἱρετοῦ καὶ τοῦ συμβεβηκότος which is presumably <u>Topics</u> II-III (or just III)[46] and a Περὶ τοῦ μὴ γεννᾶν which is certainly <u>Historia Animalium</u> X,[47] and nobody takes this as evidence that Aristotle did not intend these texts as part of the larger collections.[48] It has also been pointed out since Bonitz that <u>Metaphysics</u> K contains shorter parallels to BΓΕ in sequence, without a parallel to Δ. But this too, on reflection, is not surprising, and helps to bring out a deeper point about the special status of Δ. Although Jaeger speaks of Δ as a separate Vorlesung distinct from the Hauptvorlesung of the <u>Metaphysics</u> {ref}, it is obvious that Δ could never have been a Vorlesung at all: it is, rather, a reference text, presumably made available in writing for the use of the school, like the <u>Selection of Contraries</u> (referred to at Γ2 1004a2 and at Iota 3 1054a30, where it is specified as <u>written</u>, or perhaps as <u>drawn</u>) or the <u>Historia Animalium</u> (one is advised to look at the written histories at GA II,7 746a15 and III,2 753b17). This special status of Δ as a reference text would make it natural for someone to copy it separately. But the <u>Metaphysics</u>, like other Aristotelian treatises, is intended as a written text too and not <u>only</u> as a lecture-course (see Iα5 on oral and written versions), and none of this shows that Aristotle did not intend Δ as part of the <u>Metaphysics</u>. The more interesting question is whether Δ was written specifically for metaphysical use (and, if so, where in the logical order of the metaphysical project it belongs), or whether it is a general philosophical resource (a philosophical lexicon?) with no special relation to metaphysics. Bonitz and Ross think the latter, but they are wrong.[49]

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[44]Diogenes Laertius #36 (p.43 Düring) = Vita Hesychii (seu Menagiana) #37 (p.84 Düring; accepting, with Düring, some obviously necessary textual changes)

[45]as Jaeger 1912 (p.118ff) points out, περὶ τῶν ποσαχῶς λεγομένων comes from a conflation of περὶ τῶν πολλαχῶς λεγομένων with περὶ τοῦ ποσαχῶς (i.e. on the question "in how many ways are these things said?"). I am a bit uneasy about κατὰ πρόσθεσιν in a title for Δ: that ought to mean that a given term has one meaning by itself, another when some qualification is added, and not much in Δ seems to correspond to this description (perhaps the discussion of "perfect thief" and "good thief" in Δ16); Jaeger suggests (ibid.) that this would apply to e.g. ὄν with an added qualifier such as ὡς ἀληθές, δυνάμει, ἐνεργείᾳ; I would doubt that except in the case of a diminishing qualifier like δυνάμει, or ἔστι μὴ λευκόν or μὴ ὄν.

[46]DL #58, p.44 Düring; Περὶ αἱρετοῦ καὶ συμβαίνοντος <u>Vita Hesychii seu Menagiana</u> #56 p.84 Düring (other dialectical-topics works are cited in the vicinity)

[47]DL #107, p.47 Düring, <u>Vita Hesychii seu Menagiana</u> #90 p.85 Düring (an <u>On Animals</u> in nine books, rather than the expected ten, is cited shortly before)

[48]cross-reference to Iα5 on "titles" referring to smaller and larger units (I gave there the example of ἐν τοῖς περὶ τῆς μίξεως), perhaps add these examples there. also what I say at the end of Iγ1b about ἐν ἄλλοις is closely related to this discussion in Iα5, and should perhaps be moved there

[49]references in Bonitz and Ross. note, to dispose of, (i) references to a ten-book <u>Metaphysics</u> (we have no idea which books were excluded, or whether two of our books were counted as one); (ii) the duplication between Δ2 and <u>Physics</u> II,3 (Aristotle used the same passage twice, as in M4-5 and A9, and why not?--contrast Asclepius, who thinks that the original Δ2 was lost and that editors copied in <u>Physics</u> II,3 in place of it)

To begin with, Δ includes no ethical terms whatever.[50] It also includes no physical terms except "nature" itself (Δ4) and, if you like, δύναμις (Δ12); the treatment of "cause" (Δ2), even though it is also found in Physics II,3, is perfectly general, with nothing specific to physical applications; the treatment of "necessary" (Δ5) is not only not specifically physical, but builds up to a discussion of the mode of necessity of "eternal and unmoved things" (1015b14-15). There is no treatment even of "motion," let alone "place," "void/empty," "mixture," or any of the other physical things that are said in many ways. Our only choices are to call it metaphysical or dialectical. Δ does have much in common with the Categories, which belongs to dialectic and (as I have argued elsewhere) is designed as a prerequisite for the Topics.[51] Δ, like the Categories, describes the many modes of substance (Δ8), quantity (Δ13), quality (Δ14), and relation (Δ15), and also distinguishes the species of quality from Categories c8 (διάθεσις and ἕξις Δ19-20, πάθος Δ21, δύναμις and ἀδυναμία Δ12--missing is "σχῆμα and μορφή"); again like the Categories, it describes the modes of opposition (Δ10, Categories 10-11), prior and posterior (Δ11, Categories 12), and ἔχειν (Δ23, Categories 15). But where the Categories avoids all causal considerations, Δ has chapters on ἀρχή, cause, στοιχεῖον, nature and "necessary" (Δ1-5), and it uses causal and especially hylomorphic analyses in its analyses of particular notions: thus Δ8, unlike the Categories, speaks about the formal cause as substance; καθ᾽ ὅ is said either of the form or of the matter (Δ18), and there are similar analyses of ἔκ τινος (Δ24) and γένος (Δ28). The explanation of all these differences is that the Categories is written as an aid to dialectic, and Δ to metaphysics. Ross, to support his claim that Δ "is not preliminary to [the Metaphysics] in particular" (AM I,xxv), says that Aristotle cites Δ in non-metaphysical works as well as in the Metaphysics, but this is seriously misleading: the only examples Ross can find (cf. AM I,xiv) are GC II,10 336b29 (being is better than not being; "how many ways we say 'being' has been said elsewhere"), which could be referring to anything, and Physics I,8 191b27-9 (what-is comes-to-be per accidens but not per se from what-is-not, and per accidens but not per se from what-is; "this is one way [to solve the aporia about coming-to-be], and another is that the same things can be said in potentiality and in actuality: this has been determined more precisely elsewhere"), which fits much better with Λ2 or with Θ6-7 than with Δ7. The truth is rather, as Joseph Owens notes in passing in a footnote, that Δ is cited only in the Metaphysics (Doctrine of Being p.86 n17), indeed only in E and the following books, and that it is cited often and in structurally important places in those books: above all in the demarcation of the four paths of the study of causes of being, at various points where a distinction from Δ is needed to resolve some aporia from B, and with especially frequency in Iota.

There are, however, different degrees of "citation." I will give in a footnote below a list of the places where the Metaphysics draws some distinction between two or more senses of a term X which are also distinguished in Δ (or in a few cases, flagged, where it distinguishes a term X from a term Y as they are distinguished in Δ): Aristotle marks many of these with the phrase "πολλαχῶς λέγεται" or slight variations, without necessarily saying that we have determined elsewhere in how many ways X is said. Many of these passages are, nonetheless, very close echoes of Δ. This is particularly striking with the most structurally important uses of Δ, the references to the fourfold distinction of senses of being: nothing like this is found outside the Metaphysics or before Δ, where distinctions of senses of being are always either distinguishing different categorial senses, or distinguishing actual from potential being, never distinguishing these two broad "senses" of being from each other or from being as truth or being per accidens.

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[50]although it is often interested in evaluative (though not necessarily ethical) applications of the terms it does discuss
[51]on similarities and differences between Δ and the Categories, see my "Metaphysics, Dialectic and the Categories"

The most explicit references to Δ are in the dubious last sentence of E4 and the first sentence of Z1, 1028a4-6 and a10-11, referring back to Δ7's distinction of the senses of being (E4 ἐν οἷς διορισάμεθα περὶ τοῦ ποσαχῶς λέγεται ἕκαστον, Z1 διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς),[52] and in the first sentence of Iota 1, referring back to Δ6 on the senses of unity (ἐν τοῖς περὶ τοῦ ποσαχῶς διῃρημένοις εἴρηται πρότερον, 1052a15-16). But other references, mainly in Θ and Iota, are also explicit in referring back to something earlier, although without the "title" "περὶ τοῦ ποσαχῶς". Thus Θ1 1046a4-6, "that δύναμις and δύνασθαι are said in many ways, we have determined elsewhere [ἐν ἄλλοις]" refers back to Δ12, and Θ8 1049b4 "it has been determined elsewhere [ἐν ἄλλοις] how many ways 'prior' is said" refers back to Δ11; Iota 3 1055a2 "it has been determined elsewhere [ἐν ἄλλοις] what things are the same or other in genus" refers back to Δ28 on genus, especially 1024b9-16;[53] Iota 4 1055b6-7 saying that privation is said in many ways "as we have distinguished elsewhere [ἐν ἄλλοις]" refers back to Δ22, and Iota 6 1056b34-1057a1 "we have distinguished elsewhere [ἐν ἄλλοις]" that relatives are said in two ways, as contraries and as knowledge to the thing known, is apparently referring back to Δ15, especially 1020b26-32, although the terminology is different and Iota 6 is lumping together the first two of Δ15's three senses.[54] When E2 1026a33-b2 says that being is said in many ways, one of which was [ἦν, 1026a34] being per accidens and so on, the imperfect tense may well refer back to Δ7, which is being closely followed. We will see in discussing Iota in Iγ2 below that Aristotle there argues systematically from conclusions of Δ, so much so that it seems clear that some things in Δ, notably Δ16 on τέλειον, were put there specifically to support the argument of Iota. Δ7 refers forward to a determination of when X is potentially Y, or when Y potentially exists [πότε δὲ δυνατὸν καὶ πότε οὔπω, ἐν ἄλλοις διοριστέον, 1017b8-9], a task taken up in Θ7 and flagged in the first line of that chapter [πότε δὲ δυνάμει ἔστιν ἕκαστον καὶ πότε οὔ,διοριστέον, 1048b37].[55]

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[52]see discussions in Iγ1a of the textual situation here and of Jaeger's suggestions

[53]so Ross; Jaeger, following Bonitz, says Δ9 1018a4-11, but that talks only about sameness and otherness in species, not in genus--see below for positive justification for Ross' reference

[54]but I wonder whether something is wrong with the Iota 6 text: should ἐπιστήμη and ἐπιστητόν be exchanged? cp. Δ15 1021a26-30. but see Ross ad locum for a defence of the transmitted text (d figure out what Bonitz is saying)

[55]The Metaphysics draws some distinction which is also drawn in Δ, with various degrees of "reference" to Δ, at:

   Δ3 στοιχεῖον Z17 1041b27-33, Λ4 1070b22-7, both drawing, to very different effects, on Δ's distinction between στοιχεῖον and ἀρχή (a στοιχεῖον must be ἐνυπάρχον whereas an ἀρχή need not). ΑΒΓ deliberately fail to draw this distinction.

   Δ4 φύσις Z7 esp. 1032a22-3

   Δ5 ἀναγκαῖον E2 1026b27-9, Λ7 1072b11-13

   Δ6 ἕν Iota 1-2, reference to περὶ τοῦ ποσαχῶς at Iota 1 1052a15-16 [+ H2 on causes of unity (gluing etc.)]

   Δ7 ὄν E2, E4, Z1, Θ1, Θ10, N2

   Δ8 οὐσία Z2, Z3

   Δ9 on sameness Z6 1031a19-28 (cp. Δ9 1017b27-33 on sameness per accidens), Iota 3; on διάφορα Iota 3-4, also "other" and "unlike" 1054b14

   Δ10 ἀντικείμενα Iota 4 1055a17

   Δ10 ἕτερον εἴδει Iota 8 {flagged by the γὰρ at 1058a17; Bonitz-Ross-Jaeger wrongly print Aᵇ's ἄρα}

   Δ10 ἐναντία Iota 1055a17-18, esp. a35-8, very closely echoing Δ10 1018a31-5

   Δ11 priority Z1 (πρῶτον is said in many ways), Θ8

   Δ12 δύναμις Θ1

   Δ15 πρός τι Iota 6, back-reference ἐν ἄλλοις at 1056b34-1057a1

   Δ16 τέλειον Iota 4 1055a10-16, not exactly drawing on a distinction among senses of τέλειον but clearly citing the formulae of Δ16 1021b12-13 and b23-5. Then Iota 4 1055a17ff says that different senses of τελείως follow on different senses of ἐναντία: for the different senses of ἐναντία see 1055a35-8, echoing Δ10 1018a31-5, and the

For all of these reasons there is no real alternative to taking Δ, as we find it, as part of the Metaphysics. And by noting connections between Δ and the other books, we can help to clarify how Δ functions in the larger argument of the Metaphysics. If we understand its function, we can hope to make better sense of its internal structure and content, and can in passing give some answer to some of the other objections that Bonitz and others have raised against Δ. Bonitz complains that there is no "definite rule" guiding either the selection or the order of the terms Aristotle chooses to treat, that he includes some terms that are useless for metaphysics and leaves out others that would have been very useful, and also that "the explanation of individual terms is far inferior in subtlety of argument both to the Physics and to the Metaphysics" (II,20). I certainly do not claim that Δ could not have been improved: undoubtedly, like the rest of the Metaphysics, it was a work in progress, a "looseleaf notebook" with articles on different terms added at different times, and what is preserved is an arbitrary time-slice.[56] But Aristotle wrote it for a reason, and it plays an important part in the Metaphysics. And he is not (as Bonitz suggests) just "empirically" assembling lists of ways that some common terms are used in ordinary language or in the disciplines. Everything that Aristotle says in Δ has a philosophical point, and the point can often be brought out by reading Δ in the larger context of the Metaphysics.

To begin with, we can see what is wrong with the option (which Bonitz suggests and then dismisses, II,19-20), of reading Δ not between Γ and E but as a prolegomenon to the whole Metaphysics. As we have noted, Δ is not used in AαBΓ but only in E and subsequent books. One major function of Δ in those books will be to resolve aporiai from B by giving some conceptual clarification or distinction in a key term (e.g. Z10's solution of B#6 turns on taking from Δ25 a distinction between two senses of "part"): not only would Δ be under-motivated before B, but much in B would seem pointless or naive if Δ had preceded. B thus helps to motivate Δ, and so does Γ, both generally by raising issues which Δ helps to clarify, and specifically by stating the need for something like Δ, and indeed for several individual chapters of Δ.[57]

Most obviously, since Γ1 announces a study of the ἀρχαί, causes and στοιχεῖα of being quâ being and of its per se attributes (unity, plurality, etc.), and since "cause" and "being" and "one" and so on are each said in many ways, we will need to distinguish the different causal paths that we might pursue in order to reach the ἀρχαί (part of what was wrong with earlier attempts is

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corresponding senses of τέλειον would be those given Δ16 1022a1-3.

Δ18 καθ᾿ αὑτό Z4 1029b16-18, contrasting the way white belongs to surface καθ᾿ αὑτό with the way something's essence belongs to it καθ᾿ αὑτό, as at Δ18 1022a25-31.

Δ22 στέρησις Iota 4, back-reference ἐν ἄλλοις at 1055b6-7; also Θ1 1046a31-5

Δ25 part Z10 1034b32-1035a9

Δ28 γένος: end of Iota 3 (dispute noted above) on same and other in genus, back-reference ἐν ἄλλοις at 1055a2, pointing back to Δ28 1024b9-16 (compare esp. Iota 3 1054b27-30 and Δ28 1024b9-13, on not having the same matter/ὑποκείμενον, not admitting mutual ἀνάλυσις/γένεσις, and not having the same σχῆμα κατηγορίας). Also Iota 8 1058a23-5 may be relying on Δ28 esp. 1024b8-9 for the genus as matter (note the contrast with the Heraclids in Iota 8, with the Hellenes and Ionians in Δ28, as γένη derived from the efficient rather than material cause).

Δ29 false maybe E4/Θ10

Δ30 accident maybe E2-3

[56]note the difference between "article" and chapter, and some arbitrariness in the chapter-division of Δ. the editors generally begin a new chapter when a new term is introduced without a connective δέ to link it with the previous term, but this is not applied consistently, as noted below Δ19-20 and Δ26-7 should each be a single chapter. there is, unsurprisingly, some manuscript divergence about these δέ's: Δ2 and Δ4 each begin with a δέ in some manuscripts

[57]note, as in appendix to Princeton paper, against Jaeger's argument that Δ interrupts, without reason, what would otherwise be the connected resolution of the first four aporiai in ΓE. E is better treated as addressing B#5 rather than B#3, and that aporia cannot be resolved--as it is in EZHΘΛ--without the distinctions made in Δ.

precisely that they did not draw such distinctions clearly enough); and so we will need something like Δ to distinguish the different senses of "cause," of "being," and of each of the per se attributes of being. And indeed, Δ1-3 treat sequentially of ἀρχή, cause, and στοιχεῖον; Δ7 discusses the senses of being; Δ6 discusses "one" and also "many," and Δ9-10 discuss "same," "other," "different," "similar," "dissimilar," "opposite" and "contrary," all surely among the per se attributes of being.[58] These are among the most important chapters of Δ as regards the use of Δ in later books of the Metaphysics: numerically, the most frequent classes of uses of Δ are the explicit or implicit references to Δ7 at the beginning of the investigation of each new sense of being, and the explicit or implicit references to Δ in Iota, which goes systematically through the per se attributes of being from Δ6 and Δ9-10, and in the process also calls on Δ's accounts of relation, "complete" [τέλειον], privation, and genus.

Thus Γ's program of finding the ἀρχαί as causes of X, where X is being or something coextensive with it, requires a study of the different senses of X, and Δ carries out this task. But two qualifications are needed. First, Δ does not always distinguish the senses of X in order to help in looking for the causes of X. Obviously, this is not the reason when X is "cause" itself (Δ2). Again, we need to distinguish the senses of "prior" and "posterior" (Δ11), not because we are looking for causes of priority and posteriority, but because to be an ἀρχή is to be prior to everything else, and so to test whether something is an ἀρχή we need a determinate sense of priority. Also, if X is an attribute of being such as "one" or "other" or "contrary," the issue about the ἀρχαί is not simply about the causes of X, but about whether there is a separate first X existing παρὰ τὰ πράγματα--e.g. a One-itself as in the Parmenides, Forms of Sameness and Otherness as in the Sophist or an underlying nature of the others as in the Parmenides,[59] or a first contrariety, perhaps between the great and the small or between the equal and the unequal. (This will still be connected with causality, if the separate X is the cause to the other X's of their being X). Thus Iota does not say much explicitly about causality, but is very concerned with whether the one exists καθ᾽ αὑτό or parasitically on some other underlying nature (B#11, taken up in Iota 2), and with whether there is a contrariety παρὰ τὰ γένη or whether every contrariety is genus-bound. As we will see in Iγ2,[60] the treatment of "other," "different" and "opposite" in Δ9-10 serves largely as a means to the treatment of contraries in Δ10, and this is because it is a first contrariety that has the most serious claim to be (a pair of) ἀρχαί, a claim that will be assessed in Iota on the basis of Δ. The second qualification is that Aristotle's treatment of X in Δ may be intended, not just to distinguish different meanings of X, but also (or instead) to distinguish the meaning of X from the meaning of Y: here X and Y might be two coordinate species of something, or (as often) X might be a more specific notion which risks being confused with the more general notion Y. This is the case with the more general "other" and the more specific

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[58]note lists from B and Γ of such attributes, or things we will need to discuss further: B1 995b20-22, Γ2 1003b33-1004a2, 1004a10-20, 1005a11-17. some overlap here with the first two paragraphs of Iγ1a?

[59]the word is ἕτερον in the Sophist, ἄλλα in the relevant passage of Parmenides H3. Aristotle generally says ἕτερον, but seems to intend no distinction from ἄλλο--he interchanges them freely in what should be a technical discussion at Iota 3 1054b13-22, see discussion in Iγ2. (the usual grammar-book thing to say is that "ἕτερον" means the other of two, "ἄλλο" another out of more than two; but this is almost unfalsifiable, since whenever X is an F, and Y is ἕτερον F, you can always say that it's being considered as part of a pair X and Y without regard to the other F's. note Physics III,6 206a27-9 switching from ἄλλο καὶ ἄλλο to ἕτερον καὶ ἕτερον in the same sentence, with no apparent change of meaning) English translations often say "Different" for ἕτερον in the Sophist, but given Aristotle's technical distinction between ἕτερον and διάφορον, this should be avoided {d check whether I've been consistent--probably not}. Aristotle On the Philosophy of Archytas Fr.2 Ross says that Pythagoras called matter "ἄλλο"

[60]check that this promise is fulfilled

"different" in Δ9 (being other just means existing and not being the same; two things <u>differ</u> only if they are the same in genus), and while Δ10 could be read just as distinguishing the senses of "opposite," its main concern is to distinguish the more specific "contraries" from other kinds of opposites. So too, at greater length, Δ3's account of στοιχεῖον is not mainly intended to distinguish different senses of στοιχεῖον (in fact, the emphasis falls rather on the claim that all the things that have been called στοιχεῖα fall under a single formula, "it is common to them all that a στοιχεῖον of each thing is the first ἐνυπάρχον in each thing," 1014b14-15): the point is rather to distinguish the more specific notion of στοιχεῖον from the more general notion of ἀρχή in its broadest sense, since, as Δ1 says, "it is common to all ἀρχαί to be the first thing whence [a given thing] either is or comes-to-be or is known; some of these are ἐνυπάρχουσαι and some are external" (1013a17-20). The function of Δ3, together with Δ1, is to allow Aristotle in later books of the <u>Metaphysics</u> to assume a precise concept of στοιχεῖα as ἐνυπάρχουσαι ἀρχαί, so that he can solve aporiai by distinguishing "στοιχεῖον" from "ἀρχή" or "cause" (as he does in Z17 and in another way in Λ4), and so that he can accuse his opponents of creating the difficulty by "making every ἀρχή a στοιχεῖον" (N4 1092a6-7, said of the Academics, and cp. H3 1043b10-14); by contrast, <u>Metaphysics</u> ABΓ had used "ἀρχή" and "στοιχεῖον" as if they were equivalent.[61] Similar things can be said about Δ9's treatment of "other" and "different," and about other contrasting pairs of terms in Δ.

   We have thus seen some ways in which the program of Γ, and the larger program of solving the aporiai of B, implicitly call for something like Δ; and Δ is in fact used by later books of the <u>Metaphysics</u> to further these programs. But Γ also seems to have an <u>explicit</u> reference ahead to Δ: "after dividing in how many ways each [of the attributes of being] is said, we must answer in relation to the first thing in each predication [i.e. the first signification of each attribute] how [the other significations of that attribute] are said in relation to it: for some things will be said through <u>having</u> [ἔχειν] it, others through making/doing [ποιεῖν] it, and others through other such figures [τρόποι]" (Γ2 1004a28-31, cited in Iβ2b above). Here Aristotle says that we must carry out this investigation for X = "one," "same," "other," and "contrary" (1004a25-8); a similar passage at the end of Γ2 (1005a2-18) gives a fuller list of terms to investigate, "contrary or perfect/complete [τέλειον] or one or being or same or other" (1005a12) and "prior and posterior, genus and species, whole and part and others of this kind" (1005a16-18).[62] This seems to be referring

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[61]this is not quite true. A9 had pointed to the impossibility of common στοιχεῖα of beings in different categories, while Γ1-2 had said that beings in different categories have the same ἀρχαί; Γ1 carefully describes <u>earlier</u> philosophers as looking for the στοιχεῖα of beings, while we ourselves are said to be looking for their ἀρχαί and causes. but this just means that Aristotle himself knows that "ἀρχή" and "στοιχεῖον" will not wind up being equivalent: he has not warned the reader about this, and certainly has not done the work even to decree, let alone to justify, a clear conceptual distinction between them. this is what Δ is for

[62]cite the whole passage. here's some of it: various things must be treated by the science which also treats being, esp. the pairs of contraries which can be traced back to unity and plurality; each of these applies universally, and even if it is not said in only one way, it can nonetheless be traced back to a primary sense, and falls under a single science (1005a2-11). "For this reason it does not belong to the geometer to consider what is the contrary or the perfect/complete [τέλειον] or one or being or same or other, except <u>ex hypothesi</u>. So it is clear that it belongs to one science to consider being <u>quâ</u> being and its attributes [ὑπάρχοντα] <u>quâ</u> being, and that it considers not only οὐσίαι but also attributes, both the aforesaid and prior and posterior, genus and species, whole and part and others of this kind" (1005a11-18). It is implied that each of these is said in many ways and that these ways must be distinguished and connected in order to make each of these metaphysically tractable. also NB note that the way Aristotle uses the language of οὐσίαι and ὑπάρχοντα here implies that he is interpreting B#4 in such a way that "οὐσίαι" means beings in any category, and ὑπάρχοντα/συμβεβηκότα are not accidents as opposed to the first category, but what the scholastics will call transcendental attributes of being. NB incorporate in your discussion of the two possible intepretations of B#3-4. note in particular the verbal closeness of this passage to the statement of B#4 in B1 995b18-

ahead, not only to Δ6-10 as usual, but also to Δ11 (prior and posterior), Δ16 (τέλειον), Δ25-6 (whole and part), and Δ28 (genus), and these are clearly not meant as exhaustive. And indeed at least some of these chapters of Δ do seem to systematically carry out the program indicated, finding a first X and showing how other X's are related to this first X by ἔχειν, ποιεῖν, and so on. Thus "most things are called one through doing/making or having or suffering [ποιεῖν, ἔχειν, πάσχειν] something other [than themselves] or through being one πρός τι, but the things that are primarily called one are those whose οὐσία is one, one either by continuity or in species or in λόγος" (Δ6 1016b6-9); after describing some things that are called contraries, "the other things are called contraries through having these, or through being receptive of these, or through being such as to do or suffer [ποιητικά, παθητικά] these, or through [actually] doing or suffering these, or through being losses or acquisitions or possessions or privations of these" (Δ10 1018a31-5); after describing some things that are called perfect/complete [τέλειον], "the other things are called [perfect/complete] according to these, through either doing or having [ποιεῖν, ἔχειν] one of these, or fitting with one of these, or being said somehow or other in relation to the things that are primarily called perfect/complete" (Δ16 1022a1-3).[63]

Alexander of Aphrodisias apparently took Γ2 1004a28-31 as stating the program to be executed in Δ,[64] but this interpretation seems to be rejected by most recent scholars; both Bonitz and Jaeger, in arguing that Δ was not intended by Aristotle as part of the Metaphysics, deny that this passage has any connection with Δ, except perhaps inasmuch as it may have inspired some later Peripatetic to insert Δ in its present place. Thus Jaeger says that Γ2 1004a28-31 "contains nothing but a general methodological maxim" and not an announcement of Δ (Entstehungsgeschichte p.120): Aristotle would merely be saying that whenever we distinguish

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27, which gives a list similar to Γ2 1005a11-18 (however, the version of B#3 immediately above in B1 supports the directly opposite interpretation of the aporiai, and is picked up by Γ on first and second wisdoms; it's a puzzle)

[63]similarly, but with an added complication, at the end of Δ12 (the chapter on δύναμις, ἀδυναμία, δυνατόν and ἀδύνατον): "these δυνατά are not [so called] according to a δύναμις; the [δυνατά] that are said according to a δύναμις are all said in relation to the one first {retaining μίαν} [kind of δύναμις], which is, an ἀρχή of change in another or [in the thing itself] quâ another. For the other things are called δυνατά through something else having this kind of δύναμις of them, or through [something else] not having [such a δύναμις], or through [something else] having [such a δύναμις] in this particular way. Likewise for ἀδύνατα. So the principal definition of the primary δύναμις would be: ἀρχή of change in another or [in the thing itself] quâ another" (1019b34-1020a6; lots of small textual difficulties: b34 τὰ δυνατὰ EJ Ross, δυνατὰ A^b Jaeger; at a1 Ross brackets μίαν claiming support from the commentators, Jaeger keeps the text; at a2 and again a6 ἢ ᾗ the manuscripts generally have only one η but the restoration is clearly right) {note the standardized use of τοιοῦτον (which my translations have obscured), common to the Δ10, Δ12 and Δ16 passages (not Δ6) {sometimes there are MSS variations, typically A^b having τουτ- where EJ have τοιουτ-}}. this is complicated by the fact that here the many senses of δυνατόν are said through different relations to a first sense of δύναμις, but Aristotle is passing freely back and forth between senses of δύναμις and senses of δυνατόν = possessors of δυνάμεις in these senses; what he says here is equivalent to reducing the many senses of δυνατόν (or rather, those that are said according to δυνάμεις) to a single first sense of δυνατόν, or to reducing the many senses of δύναμις to a single first sense of δύναμις.

[64]344,20-24, interpreting with Bonitz. Alexander says that Aristotle says this ἐν τῷ δευτέρῳ, by which he means B; but there is nothing much like this in B, and Alexander's "διελόμενον ποσαχῶς ἕκαστος αὐτῶν λέγεται" is an almost verbatim reproduction of the present passage's "διελόμενον ποσαχῶς λέγεται ἕκαστος". the only thing that seems at all like this in B is B1 995b20-25, asking whether the present discipline will investigate "same and other and like and unlike and contrariety and prior and posterior, and all other such things which the dialecticians investigate, investigating on the basis of plausible premises alone," but this says nothing about investigating in how many ways these things are said. the context in Alexander shows that "ἐν τῷ δευτέρῳ" is not a slip of the pen or a copyist's mistake for "ἐν τῷ τρίτῳ"; but Alexander seems to have simply misremembered the passage from Γ2 as coming from B, perhaps through confusing it with the B1 passage. Alexander's comments on these passages in their proper places do not seem to shed any further light

the senses of a term we should also say how they are related to a primary sense. But Jaeger is able to make this sound plausible only by leaving out of his citation the last clause of Γ2 1004a28-31, "some things will be called [X] through having [ἔχειν] [this first X], others through making/doing [ποιεῖν] it, and others through other such τρόποι": for if Aristotle has a "general methodological maxim" to cite these relations of ἔχειν and ποιεῖν and so on, he observes it only in Δ (and at Iota 4 1055a35-8, which recapitulates Δ10 1018a31-5 almost verbatim). While Jaeger suggests that Γ2 1004a28-31 gives a general maxim that Aristotle follows not only in Δ but also elsewhere, Bonitz implies on the contrary that Δ does <u>not</u> follow the maxim given here. because Δ is concerned only with terms, and does not "determine what is the proper and primary concept of each of the terms" (II,19): Aristotle here "justifies why discussion of unity, otherness, contrariety and other such concepts, although they are said in many ways, nonetheless belongs to the knowledge of being; but he is far from saying that [we] must first enumerate the various uses of terms--which is what he does in this book [Δ]--and [only] then discuss the concepts themselves, what they mean [or amount to] and how they are related to each other" (II,19-20). But Bonitz is not being fair to Δ in saying that it does not "determine what is the proper and primary concept of each of the terms." It partly depends on which chapters of Δ we are talking about, but certainly the passages we have seen from Δ6, Δ10 and Δ16, distinguishing primary from non-primary X's and describing the ways in which non-primary X's are called X, through ἔχειν, ποιεῖν, or standing in some other such relation to the primary X's, are ostentatiously claiming to have fulfilled the program put forth in Γ2 1004a28-31. But in order to assess all of Bonitz' objections against Δ,[65] we need a closer examination is needed, both of Δ's methods in treating each individual term, and of its reasons (or lack of reasons) for treating the terms it does, and in the order it does.

<div align="center">Δ's methods in individual chapters</div>

Bonitz suggests that Aristotle is, without any philosophical agenda of his own, empirically collecting lists of the different ways that these terms are being used, in ordinary language or in different technical contexts, presumably as a way of warning his readers (or himself) against taking a word in one sense where a writer means it in another. It is certainly true that Aristotle often begins with an ordinary-language sense of the term (or with a sense that can be argued to be implicit in the ordinary-language use), and that he then considers uses in different technical contexts, often showing how they have arisen as extensions of the ordinary-language use. But these observations are not random, and they may all be aiming to "determine what is the proper and primary concept of each of the terms." Thus Δ3 is a sustained and highly tendentious argument for a single philosophical thesis, that, despite the wide variety of things that grammarians and geometers and physicists and dialecticians have called στοιχεῖα, "it is common to them all that a στοιχεῖον of each thing is the first ἐνυπάρχον in each thing" (1014b14-15). We can say that Aristotle is "collecting" uses of "στοιχεῖον", but in a Platonic sense of "collecting": he is trying to find a single concept and to show that the different examples of (real or alleged) στοιχεῖα that can be brought forth will all fall under it. And that attempt to bring the many instances under a single concept is motivated not by disinterested love of tidiness, but by the positive and also the polemical aims of the <u>Metaphysics</u>, which require Aristotle to distinguish sharply between the generic concept of ἀρχή-in-the-broadest-sense and the specific concept of στοιχεῖον (in Z17 and Λ4, noted above), and to accuse his opponents of

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[65]listed above

having confused the two concepts or of having wrongly made every ἀρχή a στοιχεῖον (in N4 and H3, cited above). (It is indeed likely, not that an Academic or Democritean would utter the sentence "all ἀρχαί are στοιχεῖα", but that he would <u>call</u> all of the ἀρχαί he recognizes στοιχεῖα, or that, treating "στοιχεῖον" as still metaphorical from the letters of the alphabet, he would say "the ἀρχαί are as-it-were the στοιχεῖα in which the syllables of beings are written." But Aristotle can show that this is a mistake only if he can show, as he argues in Δ3, that the concept of στοιχεῖον in <u>every</u> context involves being an ἐνυπάρχουσα ἀρχή, and not merely being an ἀρχή.)

It may be said that Δ3 is anomalous within Δ, since Aristotle does not say that στοιχεῖον is said in many ways (λέγεται πολλαχῶς, or πολλοὺς τρόπους) but rather that a single definition applies to all στοιχεῖα--in other words, Δ3 is concerned only with the external distinctions between στοιχεῖα and ἀρχαί or causes, and not with internal distinctions within "στοιχεῖον". It is true that Δ3 is in some ways unusual. But I think it is wrong to distinguish too sharply between most other terms in Δ as πολλαχῶς λεγόμενα and στοιχεῖον as a μοναχῶς λεγόμενον.[66] Δ3 begins in the usual way, by saying "this-and-that are called στοιχεῖα, such-and-such are called στοιχεῖα, thus-and-so are called στοιχεῖα"; it ends by producing a formula that will apply to all of them, although surely not to all of them in the same way ("ἐνυπάρχον" will apply in different ways to water as a constituent in a natural body and to an elementary proof as a constituent in proofs of more complicated theorems). Other articles too, after collecting different things that are ordinarily or technically called X, will try by various strategies to reduce them to a smaller number of ways of being X or reasons for being called X. For instance, Δ1, although it says or implies that ἀρχή is said in many ways,[67] also says that "it is common to all ἀρχαί to be the first thing whence [a given thing] either is or comes-to-be or is known; some of these are ἐνυπάρχουσαι and some are external" (1013a17-20). Aristotle has started in this chapter with ordinary "ἀρχαί" such as the beginning of a road, and has steadily broadened the notion to philosophically more interesting cases, representing each step as a plausible extension of the previous ones, so that he can conclude that they are all called ἀρχαί because they are in some sense "the first thing whence": in the process, he moves from examples of the beginning <u>part</u> of a thing to ἀρχαί that are not ἐνυπάρχουσαι. His common formula allows him to "collect" a notion of ἀρχή that he can use in examining the claims of different things to be the ἀρχαί; at the same time, it allows him to argue that it is not essential to ἀρχαί to be ἐνυπάρχουσαι, and he will make crucial use of this, together with Δ3's contrasting "collection" of στοιχεῖον, in the subsequent argument of the <u>Metaphysics</u>.

A similar "collection" is found in Δ11 on "prior" and "posterior," which is closely connected with Δ1. If an ἀρχή is "the first thing whence," then to test the claims of different things to be ἀρχαί we need to clarify the meaning of "prior" [πρότερον] and thus of its superlative "first" [πρῶτον = πρώτιστον]; and these are said in many ways, which Δ11 duly distinguishes (indeed, when Δ1 says that the ἀρχή is the first thing whence something "either is or comes-to-be or is known," it implies Δ11's distinction between priority in οὐσία, in time and in knowledge). But, besides listing various ordinary and technical uses of "prior," Δ11 also singles out one special sense--"things are [also called] prior and posterior by nature and οὐσία, [namely] those things which can be without others, but those others cannot be without them: Plato used this division"

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[66]Kirwan says that only Δ27, "κολοβόν" ["incomplete" or "mutilated"] "does not distinguish more than one sense"-- so he takes it that Δ3 does distinguish different senses of στοιχεῖον. it depends on how you individuate senses
[67]after enumerating several kinds of things that are called ἀρχαί, it says "ἰσαχῶς δὲ καὶ τὰ αἴτια λέγεται· πάντα γὰρ τὰ αἴτια ἀρχαί" (1013a16-17)

(1019a1-4)[68]--and it argues that "all things which are called prior and posterior are in some way said according to this sense" (1019a11-12). Thus whenever X can be said to be prior to Y, the ultimate ground for this description is that in some sense X can exist without Y and not vice versa; and this concept of priority, though it still needs further determination, is a further step in being able to test claims of ἀρχαί. There is a telling contrast with Categories c12, which enumerates many of the same τρόποι of "prior," including Plato's test, but makes no attempt to find a single fundamental sense or to reduce derivative senses to prior ones. Indeed, the Categories never tries to distinguish primary and derivative meanings of any term (except for primary and secondary οὐσία), whereas Δ, even in chapters that otherwise parallel discussions in the Categories, generally does try to. In this and similar cases where Δ "collects" the primary meaning of a term X, it begins with things that ordinary people, or specialists of some kind, or earlier philosophers, say to be X, and then brings out their implicit grounds for calling these things X: the things that other people call X may turn out not to be X in the highest degree, indeed they may turn out not to be X at all, but (Aristotle will argue) these people will have to admit that, on their own grounds, the things that Aristotle calls X have the best title to be called X. Aristotle's strategy in Δ thus has much in common with his strategy for persuading someone that his good-itself is better by their own standards than what they call good, or that his wisdom is more wisdom by their own standards than what they call wisdom. Not that such a strategy is original to Aristotle: it was surely Plato who had argued that people who say that something is prior because it is prior in time or in λόγος are implicitly assuming Plato's test for priority, so that Plato's test can decide between the conflicting claims and show what things are truly prior, just as he had argued in the Sophist that people who make different claims about what is being are implicitly assuming that being is what can act or be acted on, so that this test can show what things are truly being.

Most articles in Δ do not claim that there is one fundamental sense of X that applies to everything that can be called X. They may still, however, "determine what is the proper and primary concept of each of the terms" by various techniques for eliminating derivative senses of a term or reducing them to more primary senses, without saying that they fall under the primary sense. Thus three important and closely related articles (Δ6 "one," Δ7 "being," Δ9 "same") begin by describing the things that are called X per accidens, before coming to the things that are called X per se; three other articles (Δ2 "cause," Δ13 "ποσόν", Δ15 "πρός τι") also distinguish the things that are called X per accidens, although they do not start from these.[69] In each case the main purpose is, by eliminating the things that are X merely per accidens, to help us reach a clearer concept of what is involved in being X for the things that are X per se. This procedure is one way of eliminating a posterior sense by deriving it from a prior sense, since whatever is X per accidens will be so only through something prior which is X per se; but the per accidens sense will not "fall under" the per se sense. But Aristotle also has other techniques for showing that a sense of X is essentially dependent on some prior sense of X, even where he does not dismiss the derivative sense of X as merely per accidens. Thus, as we have seen, Δ6 on one, Δ10

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[68]one interesting text issue: EJ have the imperfect ἐχρῆτο, A^bM the aorist ἐχρήσατο. Bekker and Bonitz and Ross print the aorist, Christ and Jaeger the imperfect, which seems more likely

[69]note that while Aristotle's procedure is very often to start "from the bottom," with an ordinary-language sense or senses that he intends to subsume under a higher sense or derive from a higher sense, he also sometimes starts "from the top," e.g. in Δ14 ποιόν, discussed in the next note. perhaps he simply has not had the time or patience to rework these into a pretended sequence of discovery. it should also be said in general that some chapters in Δ are better worked out than others, in particular showing more clearly the connections between the different uses of the terms: this may simply be a sign that some chapters have reached a later stage of drafting than others

on contraries, and Δ16 on τέλειον, describe some things as being X primarily, and others as being X because they stand in some relation of ἔχειν, ποιεῖν or πάσχειν to the things that are X primarily.[70] In all of these cases, we can say that Aristotle is "reducing" [ἀνάγειν] derivative senses of X to more primary senses, and in all of these cases he is arguing for a philosophical thesis about what sorts of things are X primarily, e.g. he is supporting the claim that the primary contraries are things that maximally differ (within some genus or ὑποκείμενον) by considering possible counterexamples of other sorts of contraries, and showing that they are all derivative from contraries of this sort.

It is important to distinguish what I am saying about Aristotle's method in these chapters from a more extreme statement sometimes made about Δ, which can go with a quite different picture of Δ's role in the Metaphysics. Alexander says (345,8-11) that Δ is about some πρὸς ἓν λεγόμενα, namely those which are attributes of being quâ being and which are said in many ways because being is said in many ways. And it is sometimes said nowadays, both that the reason Δ would belong to metaphysics and not merely to lexicography is that it is about πρὸς ἓν equivocals, and that Δ serves the larger enterprise of metaphysics precisely by showing that each of the fundamental metaphysical concepts is said πρὸς ἓν rather than purely equivocally, and thus defending the science of metaphysics against the threat of fragmentation, just as, according to Owens and Owen and Frede, Γ2 defends metaphysics by showing that being is not purely equivocal but is said πρὸς ἓν in relation to οὐσία. However, it is simply not true that all the terms discussed in Δ are πρὸς ἓν equivocals:[71] most obviously, "cause" has four irreducible primary senses, and similarly with terms such as καθ᾽ ὅ, ἔκ τινος, and "part," which are said according to matter and form or to all of the kinds of cause. (And Δ3 στοιχεῖον and Δ17 κολοβόν do not note any equivocity at all.) It remains that Aristotle is working hard to reduce the many apparently different things that are called X to a few primary senses--thus he argues that "all the causes which have now been mentioned fall under the four most manifest τρόποι" (Δ2 1013b16-17), by such dubious procedures as claiming that the premisses are the material causes of the conclusion. But this is what Aristotle's project in the Metaphysics requires. He does not want to reduce the causes of being that we must pursue to one single sense of "cause," of one single sense of "being"; he wants to have a small number of different causal chains, demarcated as clearly as possible from one another, so that he can show which of these succeed in reaching the ἀρχαί and which of them fail, and this is indeed what results from Δ2 on "cause" and from Δ7 on "being." (By contrast, Joseph Owens, Doctrine of Being pp.176-9, pp.223-6, tries to defend the unity of metaphysics by arguing that "cause" too is said πρὸς ἓν, primarily of the formal cause and derivatively of the other causes.) And even in cases where Aristotle does say that X is said πρὸς ἓν, he is not doing this to save the unity of the science of X, or to show that

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[70]another interesting reduction is Δ14 ποιόν. one might expect this to be exclusively or chiefly about quality in the categorial sense, but it is not. ποιόν is said in two τρόποι, one of which is most principal, namely the differentia of a substance (the sense in which e.g. a circle is said to be ποιόν τι σχῆμα, a certain sort of figure); qualities in the ordinary categorial sense are described, derivatively from this, as πάθη τῶν κινουμένων ᾗ κινούμενα, καὶ [= i.e.] αἱ τῶν κινήσεων διαφοραί (it is rather nicely argued that virtues and vices fall under this description as being the differentiae of virtuous and vicious ἐνέργειαι/κινήσεις). one purpose of this is apparently to support the argument in Δ28 that the genus is the ὑποκείμενον of which the differentiae are the qualities (geometrical examples again); there may also be a connection with Δ21 πάθος.

[71]here as in Ιβ2b (see note), I'm using "equivocal" as equivalent to πολλαχῶς λεγόμενον, and within the domain of πολλαχῶς λεγόμενα contrasting merely chance equivocals with things said πρὸς ἓν (or, also, with things said by πρόσθεσις and ἀφαίρεσις). but sometimes Aristotle uses "homonym" = "equivocal" more narrowly than πολλαχῶς λεγόμενον, and perhaps I should too

the knowledge of X belongs to the science of being because the many senses of X track the many senses of being across the categories. (Aristotle does say that something can be X by ποιεῖν or πάσχειν what is primarily X, but also by losing [Δ10 1018a34] or fitting with [Δ16 1022a2] what is primarily X, and losing and fitting are not categories. There seems to be only one passage in Δ where the equivocity of some other term is connected with the equivocity of being, Δ10 1018a35-8 on same and other and contrary.)[72] Aristotle's concern is not so much to unify as to reduce and eliminate all but a few primary senses of X, by showing that each given thing that is called X either falls under one of these primary senses, or is X only improperly, or is dependent on some other more primary X. And, as we say in Iβ2b, Γ2 was not trying to unify the study of substances with the study of accidents in a grand theory of being, but rather to argue that in studying the causes of being, we can restrict ourselves to the causes of substances, since the other beings are dependent on substances and the causes of substances will thereby be causes of all beings; and he does in fact restrict himself to the study of substances, with a few specially motivated exceptions, for the rest of the Metaphysics.

Why these terms in this order?

These points about Δ's service in the larger metaphysical project bring us back to Bonitz' objection that Δ is a random assembly of articles, with no reason for selecting just these terms, or for presenting them in this order. And Bonitz is certainly right that there is no one overall scheme which will explain why precisely these terms, still less why precisely this order.[73] As said above, Δ must have been "loose-leaf," with chapters added at different times, for different reasons, to a core that must always have been conceived as essential to the book. Undoubtedly, yet other terms could usefully have been added but never were. But this does not mean the book was put together at random, and in many cases we can say something about why a given chapter is there; and we can reply to some complaints against particular chapters.[74] In general, there are four (mutually compatible) kind of explanation for the presence of a particular article in Δ, some of which may also help to explain why an article is in its particular position.

(i) As we have seen, in some cases the article on X in Δ directly fulfills a promise in Γ to distinguish the primary and derivative senses of X, or, at least, picks up on a promise in Γ that wisdom will study X, which, since X in fact has many senses, requires that we start by distinguishing those senses; since the lists of terms X about which Γ makes either the more specific or the more general promise are clearly illustrative rather than exhaustive, it may be that many articles of Δ which do not explicitly pick up on promises from Γ should nonetheless be seen as fulfilling the same program.

(ii) The article on X may collect a single primary concept (or a few equally primary concepts) of X, eliminate derivative or improper senses of X, or draw a crucial distinction between two senses of X or between X and Y, in order to be used later in the Metaphysics: most typically in demarcating the senses of being to be investigated in the different branches coming out of E1 (E2-3, E4/Θ10, ZH, Θ1-9), in resolving aporiai from B, and in various uses in Iota. Iota has a much higher density of references to Δ than any other part of the Metaphysics, whether because

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[72]but note that some of these kinds of reduction are also used to illustrate how being is said πρὸς ἕν at Γ2 1003b5-10. think about how important this is; the point stands that the reduction is not always categorial
[73]for an attempt, see Thomas, discussed by McInerny cited above
[74]I will not give in-depth discussions of any of these chapters here; I will discuss Δ7 (being) in detail in Iγ1c, and several of the other chapters when I discuss later passages of the Metaphysics that draw on them.

it is following a program from (Γ and) Δ more closely than other parts of the <u>Metaphysics</u>, or simply because Aristotle has worked up the text of Iota with explicit back-references more fully than he has with other parts of the <u>Metaphysics</u> (this last explanation is certainly at least part of the truth, and it might be the whole truth). As this last point reminds us, the article on X might be there because Aristotle intends to use it later in the <u>Metaphysics</u>, even in cases where the later text does not explicitly refer to Δ (i.e. does not say ὥσπερ εἴρηται ἐν ἄλλοις or ἐν τοῖς περὶ τοῦ ποσαχῶς) but merely repeats the same definition or distinction; indeed, even in cases where it seems that no text of the <u>Metaphysics</u> as we have it would have benefited from citing Δ's article on X, Aristotle may still written that article with the <u>intention</u> of using it later.

(iii) Even apart from any metaphysical interest that X may have in itself, Aristotle may include an article on X because it forms part of a coherent series of articles which he wants to include: he might include X and Y in sequence because he wants to make reference to X in defining Y (or in defining particular senses of Y), or he may want to distinguish X from Y, either where X and Y are coordinate species of the same genus, or where X is a more general concept and Y is a more specific concept and the two are in danger of being confused (as with Δ1 ἀρχή and Δ3 στοιχεῖον, and within Δ9 with "other" and "different," and within Δ10 with "opposite" and "contrary"). These articles might be printed by the editors as separate chapters, or within a single chapter. There are some obvious and perhaps trivial cases of such sequences, for instance when after an article on X there is a brief note on the contrary of X (e.g. from "one" to "many" within Δ6), but there are also longer coherent series, which I will note below.

(iv) More speculatively, it is also possible that Aristotle includes an article on X, not because he plans to say anything in particular about X in pursuit of his grand argument about ἀρχαί, but simply because he wants to show that the terms standardly discussed by dialecticians and sophists (very roughly, the terms that turn up in the second part of the <u>Parmenides</u>) are also treated in a properly scientific and causal way in first philosophy.[75] Γ2 does make this claim, and while the <u>Metaphysics</u> does not do much to follow up on it beside Γ3-8 on the principles of noncontradiction and excluded middle and some chapters of Iota (which are more concerned with the grand question about the ἀρχαί, but do also address e.g. whether one thing can have two contraries), the claim may have helped to broaden the scope of Δ beyond what was strictly necessary for the project of the <u>Metaphysics</u>.[76] This may help to explain, in particular, the often-noted overlaps between the lists of terms covered in Δ and in the <u>Categories</u> (not only category-names like οὐσία, ποσόν, ποιόν, πρός τι, but also the "postpredicamental" concepts of "opposite," "prior" and ἔχειν); even where Δ parallels the <u>Categories</u>, its approach is distinctively causal (as noted above), and this may have been deliberately intended to make a point about the differences between the metaphysician and the dialectician. In any case, this

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[75]note on the list of predicates in the <u>Parmenides</u>, one/many, part/whole (also τέλειον), same/other, equal/unequal, similar/dissimilar, contrary, "in" (correlative to ἔχειν), limit … Aristotle doesn't include all the <u>Parmenides'</u> predicates, e.g. motion or rest or coming-to-be or infinite or contact, presumably because, unlike Plato, he thinks these are proper to physics

[76]maybe note Γ mentions of the question whether one thing can have more than one contrary, as a sample of the sort of issue addressed in dialectic {the principle that a single thing can have only one contrary is used in the <u>Protagoras</u> to show the identity of two virtues, and Aristotle comments on this dialectical strategy in the <u>Topics</u>} and maybe also in first philosophy. this is taken up here in Iota 5 (the answer, no, is derived from the definition of contrariety as the greatest difference within a genus), and it seems that the only reason Aristotle raises the issue is to shoot down Academic views on which the equal is contrary to the great and small [what is going on at NE X 1073a5-13? the issue is anyway raised there]

reason for including an article on X is not fully distinct from the first reason, since it too can be seen as fulfilling a promise from Γ.

The reasons for both the inclusion and (in some cases) the order of the terms are clearest for Δ1-10. To begin at the beginning, Δ1-3 are there because Γ1 has announced an investigation of the ἀρχαί and causes and στοιχεῖα of beings. More specifically, Δ2 is necessary in order to distinguish different causal paths (the study of the material, formal, efficient and final causes), and Δ1 and Δ3 are there to distinguish constituent from non-constituent ἀρχαί, allowing him in later books to solve aporiai by distinguishing στοιχεῖα from ἀρχαί (in Z17 and in Λ4), and to make the claim (central especially to Λ) that searching for στοιχεῖα, i.e. for constituent causes, will not lead to ἀρχαί that are genuinely first. Whatever Aristotle's reasons for adding Δ4-5, his reason for adding them where he did is that they continue this discussion of causal concepts, as none of the other chapters of Δ do. And the reasons for adding Δ5, "necessary," are obvious enough: Aristotle will refer to the distinctions between different senses of necessity at E2 1026b27-30, in explaining the non-necessary and non-uniform happenings that are the causes of being per accidens, but also and more importantly at Λ7 1072b10-13 in describing the mode of necessity of the first ἀρχή, the first unmoved mover. Since Δ5 concludes that "the first and principally necessary" is "the simple" (1015b11-12), which is eternally constant and cannot be otherwise, "so if there are eternal and unchanging things, nothing in them is violent or contrary to nature" (1015b14-15), it seems clear that Δ5 was written specifically to support the argument of Λ7 or something like it.[77] The reasons for the inclusion of Δ4, "nature," are not quite so clear: the text is, in content although not verbally, close to Physics II,1, and it might have been sufficient for the Metaphysics to rely on Physics II,1 (but it might also have been sufficient for the Metaphysics to rely on Physics II,3 on causes, and there Aristotle decided to give the same discussion almost verbatim in Δ2). But whether in Physics II,1 or in Metaphysics Δ4, the main lesson is that the form of a natural thing has as good a right, indeed a better right, to be called a nature (as an internal principle of motion) than the matter does: this distinction between two senses of φύσις is explicitly invoked at Z7 1032a15-25, but, more importantly, it implicitly underlies the arguments in E1 and at Z11 1037a13-17 that the physicist deals with the form as well as the matter of natural things, and therefore that the metaphysician does not deal with the forms of natural things, except as a means to further ἀρχαί (see Iβ2c above). (The definition of nature may also help to establish that an unmoved mover, not present within what it moves, falls outside the scope of physics, so Physics II,7 198a27-31 and cp. Metaphysics Λ1 1069a36-b2; it is also presupposed in the contrasting definition of δύναμις in Δ12, explicitly juxtaposed with the definition of nature at Θ8 1049b5-10.)

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[77]see discussion of Δ5 and Λ7 in IIIγ1; I translate the passage from Δ5 there, and discuss the textual issues at 1015b14-15. Δ5 is another example of "reduction" as discussed above. Aristotle starts with various ordinary-language examples of things that are called necessary (including what is violently imposed and therefore painful), then says that "what is not capable of being otherwise" is so necessarily, and argues that all other necessary things are in some way said according to this kind of necessity. then he adds a further reduction: what is demonstrated is necessary, so the first premises of demonstrative syllogisms must also be necessary, and are the cause of other things' being necessary; so "the first and principally necessary" is "the simple," and so "if there are eternal and unchanging things, nothing in them is violent or contrary to nature." thus the kinds of necessity that people ordinarily talk about and use in explanations, whether physical constraint (the physicists are notoriously always asking "by what necessities" things come about) or deductive validity, are shown to be dependent on a higher and better kind of necessity. this is almost the only example in Aristotle of what should according to Owens and Patzig and Frede be a common pattern, of showing that some term X is said primarily of God and only derivatively, perhaps by a series of derivations, of other things

Δ6-8, on one (and many), being and οὐσία, and Δ9-10, on same, other, different (and similar and dissimilar), opposites and contraries, are also clearly dictated by the Γ1-2 program of investigating the causes of being and its <u>per se</u> attributes. Besides clarifying the senses of being, we must also clarify the senses of οὐσία, since (as Γ2 says) we will investigate the causes of being in general by investigating the causes of οὐσία alone. Also, to resolve B#5, and to establish first philosophy as described in E1, we need to determine whether there are οὐσίαι existing beyond the sensible οὐσίαι, and so we will need to clarify the concept of οὐσία, not just to delimit the effect we are studying, but also to test whether the causes fall under this concept; the two reasons come together inasmuch as the causes are likely to be shown to be οὐσίαι precisely by being the οὐσίαι <u>of</u> the sensible οὐσίαι (the sensible οὐσίαι are what we get by pointing and asking τί ἐστι, and we might reach further οὐσίαι and causes if we keep on asking τί ἐστι). For both of these reasons <u>Metaphysics</u> Z needs to clarify the concept of οὐσία and distinguish its senses, and as we will see it relies implicitly on Δ8, although it does not explicitly cite this chapter and Z3 1028b33-6 cites a somewhat different division (see IIα3 below). Γ2 also clearly mandates a treatment of unity, the most obvious attribute coextensive with being; and, "since it belongs to one [science] to consider opposites, and plurality is opposite to unity" (Γ2 1004a9-10), also plurality; and the Δ6 account of unity will be taken up in Iota 1-2, in order to resolve B#11, proving that unity does not exist separately, and therefore is not an ἀρχή. The placing of unity (Δ6) before being (Δ7) is surprising, but Aristotle wants to use analyses of different senses of "X and Y are one" as models for different senses of "X <u>is</u> Y": most clearly, the account of unity <u>per accidens</u> which opens Δ6 is the model for the account of being <u>per accidens</u> which opens Δ7, and also the account of sameness <u>per accidens</u> which opens Δ9.

The Δ9-10 accounts of sameness and otherness and so on are also explicitly mandated by Γ2:[78] the science should treat not only the "species of being" (presumably the categories) but also the "species of unity" such as "same and similar" and equal (1003b34-6), and also "their opposites, other and dissimilar and unequal, and whatever else is said under sameness or plurality or unity ... including contrariety, since contrariety is a kind of difference, and difference is an otherness" (1004a17-22); and since each of these terms is said in many ways, in each case we must start by distinguishing the primary sense and show how the other senses are reduced to it (1004a25-31, cited above). But Aristotle's specific reason for including Δ9's treatment of sameness <u>per accidens</u> (which, surprisingly, takes up two thirds of the treatment of sameness) is to provide the prerequisites for the argument at Z6 1031a19-28 (verbally strikingly close). Z6 does not explicitly refer back to Δ9, but this is a symptom of the general fact that Z6 (like much of Z) is compressed and cryptically written and has not yet been decked out with explanations and references.

After sameness Aristotle gives an automatic one-sentence account of its opposite otherness (Δ9 1018a9-11), paralleling the one-sentence account of plurality at the end of the chapter on unity (Δ6 1017a3-6); he also has a brief discussion of similar and dissimilar, as called for in Γ2. But the main interest in Δ9-10 (after the account of sameness) is in difference and especially in contrariety. "Other," "different," "opposite" and "contrary" are a connected series of terms building up to a clarification of contrariety: Aristotle calls for their study in Γ2, distinguishes them here, and investigates them in Iota (Iota 3-4 call on the Δ9-10 accounts of sameness, likeness, otherness, difference, contrariety and the other modes of opposition; for all these

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[78]there is no objective ground for the chapter-division between Δ9 and Δ10 (and the editors have in any case given up here on having one chapter per term): Δ9-10 are a single continuous discussion, and indeed, Δ6 and 9-10 might well have been a single continuous discussion, had Δ6 not been preposed to give a model for Δ7

arguments in Iota see Iγ2b-c). In all these texts the main interest is in contraries, because it is contraries that are the most plausible ἀρχαί ("everyone makes everything out of contraries," Λ10 1075a28, "everyone makes the contraries ἀρχαί", Physics I,5 188a19; Iota does in fact call the contraries ἀρχαί, Iota 7 1057b22-3, although they are not ἀρχαί in the strict sense, because they cannot exist apart from their genus). The Parmenides does seem to take otherness as an ἀρχή (cf. 158b5-d8), presumably without the benefit of Aristotle's distinction between otherness and difference: with this distinction, otherness as a mere negation[79] can be neither a cause nor an independent nature; difference (an otherness that presupposes a sameness, e.g. two things can differ in species only if they are the same in genus) does imply a positive nature, and a thing's differentiae are causes of it, but Iota will argue that the lesser differentiae are not ἀρχαί but rather derive from the maximal differentiae in each genus, the contraries. So one reason for distinguishing otherness from difference is to show that otherness cannot exist separately; the other reason is to prepare for the definition of contrariety as maximal or complete difference, which depends on distinguishing difference from otherness, and which will in turn be used to prove that even contraries, the most plausible ἀρχαί, cannot exist separately from a particular genus. Again, the account of the different senses of "opposite" (Δ10 1018a20-25) is mainly intended to distinguish contrariety, the subject of the bulk of Δ10 (1018a25-35), from the other kinds of opposition: this helps to delimit more precisely the kinds of opposites that might be ἀρχαί, and to eliminate those that cannot (thus great and small are not contraries but correlatives, and no relative can be an ἀρχή, N1 1088a21-35; the equal is not the contrary of the great and small, but rather their privation, Iota 5, against any Academics who might want the equal as a positive formal ἀρχή contrary to the great and small).[80]

    It is clear that the necessity both of the inclusion of the terms and of their sequence drops off after Δ10. Still, we can often see that a term is there for one or more of the kinds of reasons noted above. As we have seen, the end of Γ2--"it does not belong to the geometer to consider what is the contrary or the perfect/complete [τέλειον] or one or being or same or other, except ex hypothesi. So it is clear that it belongs to one science to consider being quâ being and its attributes [ὑπάρχοντα] quâ being, and that it considers not only οὐσίαι but also attributes, both the aforesaid and prior and posterior, genus and species, whole and part and others of this kind" (1005a11-18)--seems to be giving a program not only for Δ6-10, but also for at least Δ11 (prior and posterior), Δ16 (τέλειον), Δ25-6 (whole and part), and Δ28 (genus).

    Δ11, on prior and posterior, begins the sequence, and seems to be intended as the most important chapter of Δ11-30 (at B1 995b20-22 it is the only term flagged beyond those of Δ6-10): by distinguishing the relevant senses of priority (priority in time, favored by the physicists, priority in λόγος, favored by Platonists), and arguing that the principal sense of priority is priority in οὐσία as determined by Plato's test (appropriately filled out),[81] it will allow us to settle the disputes from B about what things are ἀρχαί. Θ8 clearly refers back to Δ11 (1049b4-

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[79]a slight oversimplification, see Iota 3 1054b18-22, but this doesn't affect the point

[80]options for Δ10 1018a38-b8 or more broadly a35-b8: (i) transpose as Jaeger suggests to Δ9, (ii) take as an appendix to Δ9-10 as a whole, or (iii) take as commenting specifically on contrariety, difference in species within a genus as depending on the characteristic contrariety of that genus. see Iγ2b for a detailed discussion of the use of Δ10 1018a38-b8 in Iota 8; since Iota follows the order of Δ9-10 fairly closely, with digressions such as Iota 5-6, it seems clear that Aristotle did intend Δ10 1018a38-b8 to stand here at the end after the discussion of contraries, corresponding to Iota 8-9, and separate from the Δ3 discussion of otherness and difference, corresponding to Iota 3

[81]cross-reference to discussion elsewhere, problem of exactly how Plato's test is to be filled out so with an appropriate notion of εἶναι so as not to imply the priority of universals to individuals, genera to species, or parts to wholes

5), and its application of the different senses of priority to ἐνέργεια and δύναμις is crucial to the overall argument of the <u>Metaphysics</u>.[82] Many other chapters of Δ11-30 seem to be there to be drawn on especially in Θ, Iota, and Z. Notably, Δ12 (δύναμις, ἀδυναμία, δυνατόν, ἀδύνατον) is crucial for Θ, and is cited explicitly in Θ1 (1046a4-11: διώρισται ἡμῖν ἐν ἄλλοις, a5-6), which dismisses the senses of δύναμις marked as metaphorical or merely homonymous in Δ12 (1019b33-1020a2, e.g. "square root"), and follows Δ12 in reducing the others, each a kind of ἀρχή, to the primary sense, an ἀρχή of change in something else or in the thing itself <u>quâ</u> something else. (Δ12 also connects with earlier chapters of Δ, in that its primary sense of δύναμις is modelled on the definition of nature in Δ4, its clarifications of δύναμις and δυνατόν are key to resolving the question when something is δυνατόν, explicitly left open at Δ7 1017b8-9, and its notions of δυνατόν and ἀδύνατον at 1019b22-33 are interdefining with the primary sense of ἀναγκαῖον from Δ5; all of these connections will be exploited in Θ.) Likewise Δ15 on πρός τι, Δ16 on τέλειον (the most surprising of the terms signalled at the end of Γ2), and Δ22 on privation are there chiefly for uses in Iota: distinctions in the senses of opposition, of contrariety and of privation are all invoked together in Iota 4, Iota 4 also draws on Δ16's notion of τέλειον in explaining contrariety as τελεία διαφορά (and cp. τελεία στέρησις, Iota 4 1055a33-5), and Iota 6 explicitly cites Δ15's distinction among senses of πρός τι to show how the one is opposed to the many. In Δ18 the distinction between the two main senses of καθ᾽ ὅ (1022a14-24; in one way, he is white κατά dilating the visual ray, in another way κατά his surface) is instrumental to the corresponding distinction in senses of καθ᾽ αὑτό (1022a24-b36), and this is included because it is in turn instrumental in the account of the essence of X as what X is καθ᾽ αὑτό in Z4 1029b13-22 (the texts are verbally close, sharing the talk of τὸ τί ἦν εἶναι even of an individual subject, and the example of the surface being white καθ᾽ αὑτό). Likewise the account of the senses of "part" in Δ25 is used in Z10 1034b32-1035a22 to resolve the aporia from B#6 about whether the parts of a thing should be mentioned in its λόγος ("part is said in many ways," 1034b32: crucial is the distinction between parts of the matter and of the form, but the sense of quantitative part is also taken from Δ25); this is presumably why Δ25 was included. Δ28 on genus, fulfilling a promise from the end of Γ2, traces different senses of genus back to different senses of cause, especially matter and form, and seems mainly intended to argue for the thesis of later books that genus is matter (1024a36-b9); Iota 3 1055a2 has a clear reference back to Δ28 1024b9-16.[83] And the final chapters, Δ29 on falsehood and Δ30 on accident, must have been appended to help in the treatment of the two "minor" senses of being from Δ7, being as the true (E4 and Θ10) and being <u>per accidens</u> (E2-3; on both of these, see Iγ1c below).

However, some of the articles in Δ seem to be motivated neither by the program of Γ nor by uses later in the <u>Metaphysics</u> (at least as we have it), but simply because they belong to series of terms that Aristotle wants to keep together; some of these series have parallels in the <u>Categories</u>, which suggests that Aristotle may present them here in order to show that the first philosopher can treat scientifically the same terms that the dialectician treats unscientifically. In any case, these series (as well as the series we have noted within Δ6-10, and δύναμις-ἀδυναμία-δυνατόν-ἀδύνατον within Δ12) help to explain the order of the articles in Δ. Thus Δ13-15 on quantity,

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[82]cross-references, esp. IIIα3. also note Z1, but some discrepancies there

[83]see a note above for the point that the reference is to Δ28 rather than to Δ9. Iota 3 1054b27-30 makes the Δ28 connection especially clear. also note use of Δ28 at the end of Iota 8. note in Δ28 trying to show how the technical meaning falls under one of the ordinary meanings. curious insistence here and elsewhere in Δ on genus as ὑποκείμενον-matter and διαφορά as ποιότης. (transition via Pyrrha: choosing example of plane figures, same genus = same intelligible matter, to reduce the dialectical sense to the third physical sense)

quality, and πρός τι take up the same three categories as <u>Categories</u> cc6-8 (the <u>Categories</u> puts πρός τι immediately after quantity, perhaps because the first kind of relations are quantitative relations, i.e. proportions); these chapters can also be seen as picking up from ὄν in Δ7 and its first subtype, οὐσία, in Δ8, after Aristotle has dealt with more urgent concepts. Likewise Δ19 on διάθεσις and Δ20 on ἕξις (which should by the editors' usual rule be a single chapter, since they are connected by a δέ, and the discussion of ἕξις refers repeatedly to διάθεσις), and then Δ21 on πάθος, take up the first and third kinds of qualities from <u>Categories</u> c8 (ἕξεις and διαθέσεις 8b26-9a13, πάθη and παθητικαὶ ποιότητες, corresponding to Δ21's two main senses of πάθος, 9a28-10a10; the <u>Categories</u>' second kind of quality, δυνάμεις and ἀδυναμίαι, were covered in Δ12, and its remaining kind, σχήματα and μορφαί, are omitted). Δ16, τέλειον and τέλος, and Δ17, πέρας, also form a series (compare Δ16 1021b12-13 with Δ17 1022a4-5). Finally, there is a more elaborate series connecting Δ24 ἔκ τινος with Δ25 "part" (one of the senses of ἐκ is "as the parts are ἐκ the whole," Δ24 1023a32, and the two chapters share the distinction between parts of the matter and parts of the form or form-possessor), and then with Δ26 "whole" (and "all") and Δ27 "mutilated [κολοβόν]" (something is mutilated if it fails to be whole, i.e. fails to contain all its appropriate parts): all of these articles take up the topic of whole and part announced at Γ2 1005a17.[84] Indeed, Δ26 "whole" and Δ27 "mutilated" are not merely parts of a connected series of articles, but are connected by δέ and should thus be printed as a single chapter; these considerations help to address the complaint of Bonitz and Ross that Δ contains some terms not appropriate to metaphysics, since they both take "mutilated" as their star example (cp. Aristotle <u>Symposium</u> Fr. 2 Ross, οὐδὲν κολοβὸν προσφέρομεν πρὸς τοὺς θεοὺς ἀλλὰ τέλεια καὶ ὅλα).

<div align="center">Jaeger's problem about references back to Δ</div>

I have now responded at least in passing to almost all the objections brought by Bonitz and Jaeger and Ross against taking Δ as an originally intended part of the <u>Metaphysics</u>. But one objection of Jaeger remains to be answered. Jaeger notes that, although later books of the <u>Metaphysics</u> sometimes cite Δ with phrases like διειλόμεθα πρότερον ἐν τοῖς περὶ τοῦ ποσαχῶς (Z1 1028a10-11, Iota 1 1052a15-16), suggesting an earlier part of the same work, they also sometimes use phrases like διήρηται ἡμῖν ἐν ἄλλοις (Θ1 1046a4-6, Iota 4 1055b6-7, Iota 6 1056b34-35), suggesting reference to a different work. Jaeger argues that we should regard the "ἐν ἄλλοις" references as decisive, that "πρότερον" does not imply earlier in the <u>same</u> work; in support of this claim he assembles a number of passages where one physical work refers back to a different physical work, earlier in an idealized order of learning, with εἴρηται ἐν ἑτέροις πρότερον, and he argues that the <u>Metaphysics</u> references to Δ are likewise references to an "earlier" work (<u>Entstehungsgeschichte</u> pp.118-120). But Jaeger's argument depends on uncritical notions of "the same work" and "different works." As we saw in Iα5, Aristotle's cross-references are to earlier and later places within the same idealized series of lectures which an idealized learner would attend, or within a series of texts putting in written form the content of that idealized lecture-series, and that series can be divided up as finely or as crudely as is convenient on any given occasion. Jaeger's examples of "εἴρηται ἐν ἑτέροις πρότερον" are all cross-

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[84]Δ23 ἔχειν (and ἔν τινι) should probably go here too: note Δ23 1023b17 on the whole ἔχειν the parts. (Ross prefers to group Δ23 with Δ22 on privation). in any case Δ23 takes up the topic of <u>Categories</u> c15. note that Δ26 on the distinction between ὅλον and πᾶν is taking up an issue from the <u>Theaetetus</u> which will be important in Z. note also that Δ26 1023b35-6 has a back-reference to Δ6, ὥσπερ καὶ ἐπὶ τοῦ ἑνὸς ἐλέγομεν, which implies some conception of Δ as a continuous discussion

references between different parts of Aristotle's Περὶ φύσεως (from the <u>Physics</u> through <u>Meteorology</u>), which can be regarded as a single treatise in eighteen books, or as the <u>Physics</u> and then the <u>De Caelo</u> and so on, or as the <u>Physics</u> (= <u>Physics</u> I-IV) and then the <u>On Motion</u> (= <u>Physics</u> V-VIII, or V-VI and VIII) and then the <u>De Caelo</u>, or however we wish to divide it.[85] The <u>Metaphysics</u> too is such a series of texts, earlier and later in the ideal order of learning, teaching the science of first philosophy as the Περὶ φύσεως teaches the science of physics. A later part of such a series can refer back to an earlier part as "ἐν τοῖς περὶ X" or "ἐν ἄλλοις", and these are references to a unit of text contrasting with the present unit, but the units can be of any scale, and no inference can be drawn as to whether the references are to "the same work" or "a different work."[86] Δ is cited in later books of the <u>Metaphysics</u> as ἐν τοῖς περὶ τοῦ ποσαχῶς, but equally Z is cited as ἐν τοῖς περὶ οὐσίας λόγοις (Θ8 1049b27-8, Iota 2 1053b17-18) and B as ἐν τοῖς [δι]απορήμασιν (Γ2 1004a33-4, Iota 2 1053b10, M10 1086b14-16), and although Jaeger thinks that B is part of Aristotle's intended <u>Metaphysics</u> (the "Hauptvorlesung") and that Δ and Z are not, there is no difference in the form of citation. But it is equally possible to replace the more precise ἐν τοῖς περὶ τοῦ ποσαχῶς with the vaguer ἐν ἄλλοις (this might be done especially to avoid an inelegant repetition, e.g. τὸ X λέγεται πολλαχῶς, ὥσπερ εἴρηται ἐν τοῖς περὶ τοῦ ποσαχῶς). Cross-references "earlier" and "later" within the <u>Metaphysics</u> indicate positions in the ideal order of learning, and this is <u>roughly</u> the order of the books as we have them; in particular, the references in later books back to Δ, the reference forward from Δ7 1017b8-9 to Θ7, and the reference forward to Δ in the promissory note Γ2 1004a25-31, confirm that Δ is in its proper place in that order.

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[85]see Ross' introduction to the <u>Physics</u> for the possibilities

[86]<u>Metaphysics</u> Θ refers back to Z as ἐν τοῖς περὶ τοῖς οὐσίας λόγοις (1049b27-8); H, being itself part of the discussion of οὐσία, cannot refer back to Z by this formula and so says simply ἐν ἄλλοις (1043b16), but all of these texts could be referred to from outside as parts of a larger unit, e.g. "on being" or "on first philosophy." (Iota cites something from Z as ἐν τοῖς περὶ οὐσίας καὶ περὶ τοῦ ὄντος εἴρηται λόγοις, 1053b17-18, a form of reference that could not be used in Θ, which is part of the περὶ τοῦ ὄντος λόγοι although not of the περὶ τοῖς οὐσίας λόγοι). <u>Sophistical Refutations</u> c2 refers to things in the <u>Topics</u> as ἐν ἑτέροις or ἐν ἄλλοις, although the <u>Sophistical Refutations</u> begins with a δέ connecting back to the <u>Topics</u>, and although the last chapter of the <u>Sophistical Refutations</u> summarizes Aristotle's achievement in discovering a method for drawing inferences about any given subject from plausible premises (183a37-b2), i.e. in the project of the <u>Topics</u> as a whole, with a very close echo of the first sentence of the <u>Topics</u>. <u>De Anima</u> III,3 427a23-25 says "Empedocles says [B106] and ἐν ἄλλοις [B108]," and this is not evidence that B106 and B108 come from different poems; likewise when <u>Politics</u> VIII,3 1338a25-30 cites a version of <u>Odyssey</u> XVII,382-5 and then says that Odysseus ἐν ἄλλοις says what he says at <u>Odyssey</u> IX,7-8.