

Aristotle on the Many Senses of Being
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Aristotle thinks that serious philosophical errors have been made, from Parmenides down to his own day, as a result of failing to draw distinctions between different senses of being. He thinks it is important to draw such distinctions, in order both to avoid these errors, and to enable a constructive investigation of the causes of being. The pseudo-Platonic Definitions say that wisdom is "knowledge of the things which are eternally; knowledge contemplating the cause of the things that are" (414b5-6). Aristotle agrees, and adds that it will be knowledge contemplating the causes of the things that are quâ things-that-are--causes, to the things that are, of the fact that they are. His reason, apparently, is that since wisdom is knowledge of "the ἀρχαί and the highest causes" (Metaphysics Γ1 1003a25-6), these will be causes of the most widely extended attributes, namely being and its per se attributes such as unity. But we will not be able to make progress toward such a science unless we first distinguish the different senses of the effect we are supposed to be investigating, namely being. As Aristotle says in criticizing Plato in A9, "if we seek the στοιχεῖα of beings without distinguishing, although [beings] are said in many ways, it is impossible to find [their στοιχεῖα], especially if we seek in this way, [by asking] out of what kinds of στοιχεῖα they are [composed]: for it is not possible to grasp what things acting or being acted on or the straight are [composed] out of, but, if at all, only for substances: so it is not right either to seek the στοιχεῖα of all beings or to think that one has found them" (992b18-24). Aristotle himself thinks that wisdom can discover numerically single causes of all beings: these will not be common στοιχεῖα of all beings (where στοιχεῖα are causes present within the thing and jointly constituting it, like the matter and the form and the parts of the definition), but rather extrinsic causes. But still it seems clear that if we are looking for any kind of common cause of all beings, we will have to start by investigating the different ways in which things are said to be.

However, it is surprisingly difficult to give a clear statement of Aristotle's own view about how many senses of being there are and how they are related. Partly this is because in most places Aristotle does not lay out a full theory of the senses of being, but draws only as many distinctions as he needs for a particular argument; and it is not always easy to see how the different distinctions are supposed to fit together. But there is one text, Metaphysics Δ7, which promises to lay out the full scheme of all the senses of being. Furthermore, Δ7 seems to play a key role in the overall argument-structure of the Metaphysics. From A9 and Γ1-2 we might have thought that the main problem, for someone trying to establish a science of the causes of being, came from the many senses of being corresponding to the different categories. But when Aristotle turns in Δ7 to describe the different ways in which being is said, he gives us something more complicated. Δ7 starts by saying that "being is said on the one hand per accidens, on the other hand per se" (1017a7-8), where "however many things are signified by the figures of predication [i.e. the categories] are said to be per se" (1017a22-3); but then "also ἔστιν and εἶναι signify that it is true, μὴ εἶναι that it is not true but false" (1017a31-2), and "being also signifies what is, on the one hand potentially, on the other hand actually, [any] of these aforementioned [kinds of being]" (1017a35-b2). This division into four ways in which being is said then seems to govern the overall argument-structure of the next four books, EZHΘ. E1 says that we are seeking a knowledge of the ἀρχαί and causes of beings quâ being, where these ἀρχαί must be eternal and separate (not abstractions or attributes of something else), and where, if there is to be a first

philosophy beyond physics, these ἀρχαί must also be eternally unchanging, thus must be something apart from the natural things. So presumably the problem is to discover whether, among the causes of the familiar things, there are such eternally unchanging ἀρχαί; and since we are looking for the ἀρχαί as causes of being, and since being is said in many ways, presumably we must examine each sense of being in turn and see whether its causes include anything separate and eternally unchanging. Pursuing this program, E2 starts by recalling the four senses of being from Δ7. Then E2-3 examine being per accidens, concluding that it has no causes which can be known by any science, and E4 examines being as truth, summing up the results of both investigations by saying "let what is per accidens 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 quâ being" (1027b33-1028a4). Z, beginning with an explicit reference back to Δ7--"being is said in many ways, as we distinguished before in the περὶ τοῦ ποσαχῶς" (1028a10-11)--examines the senses of being divided according to the categories; Z1 argues that things in the other categories are posterior to οὐσία, and so the rest of ZH just investigate being as οὐσία (H1 says that "we are seeking the causes and ἀρχαί and στοιχεῖα of οὐσία", 1042a4-6). Then Θ1 says that we have now spoken about οὐσία, but that since being is said not only according to the categories, but also according to potentiality and actuality, we should now talk about potentiality and actuality, which Aristotle does in Θ1-9. Finally, Θ10 says that "since being and not-being are said, in one way according to the figures of predication, in another way according to the potentiality or actuality of these or their contraries, but what is being in the strictest sense is the true or the false" (1051a34-b2), we should investigate being as truth; and, where E4 had examined the truth of complexes or propositions, Θ10 looks particularly at truth as said of simples. Thus the fourfold division of senses of being in Δ7 seems to provide the main structuring principle for EZHΘ, which Aristotle returns to at each major turn in the argument.

The status of Δ in the Metaphysics has, of course, been questioned. Bonitz and, following him, Jaeger and Ross thought that Aristotle did intend a single great treatise on first philosophy, even if he never finished it to his satisfaction, but that his intended treatise was something like ABΓEZHΘIMN, and that αΔΚΛ, although really by Aristotle, were not intended by him as parts of the great treatise on first philosophy, and were added to it by Peripatetic editors. This is perfectly compatible with Aristotle referring to Δ, and specifically to Δ7, at crucial moments in the Metaphysics. But it has also been proposed that at least some of these references are post-Aristotelian insertions (see e.g. Jaeger's OCT apparatus at 1028a10-11 and 1052a15-16) and, more radically, that Θ1 in particular misdescribes the nature of the transition from H to Θ--that although Θ1 represents itself as continuing a systematic examination of the senses of being distinguished in Δ7, turning in due order from being as said of the categories (and chiefly of οὐσία) to being as actuality and potentiality, in fact Θ directly continues ZH's consideration of οὐσία, and specifically H's interpretation of form as actuality. Now in my book-manuscript I discussed the arguments about Δ (see Appendix below), and concluded that Aristotle did intend Δ as part of the Metaphysics, in its present place between Γ and E. Γ1 calls for an investigation of the ἀρχαί, causes and στοιχεῖα of being quâ being and of its per se attributes, where these attributes will be things like unity, plurality, sameness, otherness, difference and contrariety. But being is said in many ways, and so are unity and so on, and so are ἀρχή, cause, and στοιχεῖον; so to investigate the causes of being and its attributes, we need to start by distinguishing the ways in which being, cause, and so on, are said. Γ2 calls for such an investigation of the many senses

of each of these terms: "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 having it, others through producing it, and others through other such figures" (1004a28-31). Here Aristotle says that we must carry out this investigation for "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 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). This looks very much like a program for Δ, which discusses "one" in Δ6, "being" in Δ7 (and δύνναμις in Δ12 and four of the categories in Δ8, 13-15), "same" and "other" in Δ9, "contrary" in Δ10, "prior" and "posterior" in Δ11, "perfect" in Δ16, "part" and "whole" in Δ25-6, and "genus" in Δ28.¹ Also Δ1-3, on the different senses of "ἀρχή," "cause" and "στοιχείον", seems like an obvious preliminary to the project announced in Γ1 of a study of the ἀρχαί, causes and στοιχεῖα of being and its attributes: unless we distinguish the different kinds of cause, we will not be able to distinguish the different causal chains, so as to discern which of them lead up to separate eternally unchanging ἀρχαί and which do not; and unless we distinguish στοιχεῖα as constituent ἀρχαί from ἀρχαί in general (which is the main lesson of Δ1 and Δ3), we will not discover that we need to look for ἀρχαί of all beings which are not στοιχεῖα of all beings. More or less plausible justifications can be given for all the other chapters.² Δ, like the rest of the Metaphysics, is a work in progress, and Aristotle surely kept adding new terms to Δ as they occurred to him; I am not suggesting that none of its chapters could have been omitted, or that others could not have been usefully added. But Γ2 is calling for something like Δ, and something like Δ is repeatedly presupposed in the books after Δ, which often draw on distinctions from Δ at crucial points in the argument,³ including the explicit references at Z1 1028a10-11⁴ and Iota 1

¹It seems to be widely thought that these texts are not really looking forward to Δ, but I have not seen any serious reason given. Jaeger says that Γ2 1004a28-31 "contains nothing but a general methodological maxim" and is not an announcement of Δ (Entstehungsgeschichte p.120): Aristotle would merely be saying that whenever we distinguish the senses of a term we should also say how they are related to a primary sense, and the passage would be related to Δ only inasmuch as it would have given some Peripatetic the idea of inserting Δ in its present place. But Jaeger is able to make this sound plausible only by leaving out of his citation the last clause, "for some things will be said through having it, others through producing it, and others through other such figures": for if Aristotle has a "general methodological maxim" to cite these relations of having and producing and so on, he observes it only in Δ (and at Iota 4 1055a35-8, which recapitulates Δ10 1018a31-5 almost verbatim). Jaeger says nothing about the heavy overlap between the terms listed in our two Γ passages and in Δ. Bonitz, strangely, denies that Γ2 1004a28-31 looks forward to Δ on the ground that Δ does not follow this "methodological maxim": he thinks that Δ only "enumerates the various uses of terms" and does not "discuss the concepts themselves, what force they have and how they are related to each other" or "determine what is the proper and primary concept of each of the terms" (v.2 pp.19-20).

²See my The Aim and the Argument of Aristotle's Metaphysics (draft now in fairly wide circulation and available to anyone who wants it), Iγ1b.

³A reasonable list of passages in the Metaphysics turning on some definition or distinction from Δ would be:

Δ3 στοιχείον Z17, Λ4

Δ4 "nature" Z7, E1

Δ5 "necessary" E2, Λ7

Δ6 "one" Iota 1-2

Δ7 "being" E2, E4, Z1, Θ1, Θ10, N2

Δ8 οὐσία Z2, Z3

Δ9 "same" Z6, Iota 3; "other," "different," "similar" Iota 3-4

Δ10 "opposite," "contrary" Iota 4

Δ10 "other in species" Iota 8 (flagged by the γάρ at 1058a17: Bonitz-Ross-Jaeger wrongly print Ab's ἄρα)

1052a15-16 to what was said before ἐν τοῖς περὶ τοῦ ποσαχῶς. (Δ does not seem to be used in earlier books of the Metaphysics or in other works. Δ is not a general "philosophical lexicon," since it contains no ethical terms, and no physical terms except "nature" itself and, if you like, "δύναμις". Δ has a significant overlap in the list of terms it discusses with the Categories including the Postpraedicamenta, but is marked as specifically philosophical by its use of causal concepts, including matter and form, in distinguishing the different senses of the various terms, whereas the Categories strictly abstains from such causal concepts, and I have argued that it belongs not to philosophy but to dialectic and is intended as an auxiliary to the Topics.)⁵

However, the issue of whether Aristotle intended Δ as part of the Metaphysics may not be so important for whether Δ7 can help us in understanding the argument of the Metaphysics. Even if the references to Δ are to an independent treatise, the references, if really by Aristotle, show that he thought it would help his readers to follow his argument in the Metaphysics; and the references to Δ7, in particular, are crucial for the way he structures the argument of EZHΘ. Indeed, even if we believed that the references to Δ were added by later editors (and I think there is not the slightest reason to believe it), we would still have no alternative but to turn to Δ to explicate the distinctions that Aristotle is presupposing, and in particular the distinctions between different senses of being. Jaeger had said that, if Z had been written continuously after E, then in Z1 "either Aristotle would have referred his readers to the full and detailed account of the meanings of 'being' given [in E2], or he would not have enumerated these meanings at all, because everyone would have them in mind" (Jaeger 1923, ET, p.203). But this is badly mistaken: in fact E2's "full and detailed account" is a bare listing without definitions or examples of the different senses, just over six Bekker-lines (contrast thirty-eight for Δ7), which would be unintelligible without the fuller account of Δ7 or something like it. And we have nothing else like it: apart from the full or partial (but always bare-bones) listings in E2, E4, Θ1 and Θ10, Aristotle nowhere else gives the full scheme of the four ways in which being is said, but only discusses, say, the relation of the different categorial senses of being to each other, or the relation of being-as-potentiality and being-as-actuality to each other.

The real obstacles that have prevented people from making use of Δ7 in interpreting the Metaphysics do not arise from scruples about the status of Δ, or from any other alternative keys

- Δ11 "prior" Z1, Θ8
- Δ12 δύναμις Θ1-2
- Δ15 πρὸς τι Iota 6
- Δ16 "perfect/complete" Iota 4
- Δ18 καθ' αὐτό Z4
- Δ22 "privation" Iota 4
- Δ25 "part" Z10
- Δ28 "genus": Iota 3, Iota 8
- Δ29 "false" E4/Θ10
- Δ30 "accident" E2-3

Some of these apparent uses of Δ in later books are disputable, but the general picture, I think, is not. It is clear that the closest relation is between Δ and Iota, but Δ is important for other books (especially E, Z, Θ) as well: apart from the use of Δ7 in structuring the overall argument of EZHΘ, distinctions from Δ are drawn on at particularly crucial moments to solve some aporia, notably the distinctions between senses of "part" in Z10 (in a passage that stays very close to Δ25), between ἀρχή and στοιχείον in Z17, and between senses of "prior" in Θ8.

⁴And/or E4 1028a4-6 if authentic.

⁵See my "Metaphysics, Dialectic, and the Categories," Revue de Métaphysique et de Morale, v.100, n.3, July-September 1995, pp.311-37.

to Aristotle's scheme of the many senses of being, but from the frustrations of trying to make sense of $\Delta 7$. It is probably these frustrations that have led some scholars to think that $\Delta 7$ is not really (as it seems to be in the transmitted Metaphysics) the foundation of the investigation into the causes of being in EZH Θ , but merely an assemblage of different ways in which the term "being" or the verb "to be" are used, used either by Aristotle himself or by other people: $\Delta 7$ would be then a kind of reflection on texts like EZH Θ , an explanation of how Aristotle is using the terminology, rather than a theoretical foundation for these texts. Sometimes one hears it said of all of Δ that it is just an empirical collection of the different ways in which people were in fact using these terms. Now in fact I think that every chapter of Δ has an overriding philosophical purpose (and that it would be extremely dangerous to rely on them as a neutral guide to how people actually used these Greek words), although sometimes the purpose becomes clear only when we see how Aristotle uses the conceptual determinations and distinctions of Δ later in the Metaphysics.⁶ And even if extracting the overall philosophical point of $\Delta 7$ is not easy, ignoring or suppressing the text will not be any improvement, since we will still have to make sense of the overall structure of EZH Θ , and of the structuring passages on the senses of being that Aristotle posts at crucial turns in the argument; $\Delta 7$, read in the context of the developing argument of the Metaphysics, is our best hope.

So let me start by saying something briefly about the frustrations of $\Delta 7$, then say programmatically what I mean by trying to make sense of $\Delta 7$ in the context of the developing argument of the Metaphysics, then settle down to interpreting the text, starting from $\Delta 7$'s account of the senses of "being per se." I will try to point to some payoffs of this analysis of $\Delta 7$ for understanding the larger argument of the Metaphysics, but my main goal in this paper is just to make sense of $\Delta 7$, using its function in the Metaphysics as a clue.

One obvious frustration is that $\Delta 7$ never explicitly says how its four main ways in which being is said are related to each other: it gives first an account of being per accidens, 1017a8-22, then of "being" per se, which is said in as many ways as the categories, 1017a22-30; then the words for being also signify the true 107a31-2, and also what is potentially or actually any of these things, 1017a32-b9. It is never said that the term is transferred or metaphorically extended from one sense to another, and there is no attempt at the end of the chapter to reduce the many senses to one or a few primary senses, as is done in many chapters of Δ . The only explicit effort to connect the four sections is the initial "τὸ ὄν λέγεται τὸ μὲν κατὰ συμβεβηκὸς τὸ δὲ καθ' αὐτό" (1017a7-8), opening into a long explication of κατὰ συμβεβηκὸς μὲν, full of digressions and needing to be summarized in the μὲν οὖν clause 1017a19-22, before finally passing to its καθ' αὐτὰ δέ at 1017a22. This is clearly in some way modeled on the procedure of $\Delta 6$, which begins "ἐν λέγεται τὸ μὲν κατὰ συμβεβηκὸς τὸ δὲ καθ' αὐτό" (1015b16-17), describing the per accidens senses in 1015b17-36 and then turning to the per se senses. Presumably in both chapters the plan is to get the per accidens senses out of the way first, to show how they are parasitic on the per se senses, so that by peeling away the per accidens senses we can strip the extension of the term down to its core, the easier to grasp the unifying concept that applies to all the per se uses of the term. That would make good sense for $\Delta 7$ if it contained only the first two sections--although the "core" is not what we might expect, since $\Delta 7$ 1017a22-30 says that both substances and accidents are beings per se, while Posterior Analytics I,4 73b5-10 says that substances are

⁶For discussion of the aims and methods of some sample chapters of Δ , see The Aim and the Argument, Iγ1b.

beings per se and accidents are not. But, having read what seem like comprehensive accounts of the per accidens and per se senses of a term, it is disconcerting to learn that the term also has other senses--surely the division into per accidens and per se should be exhaustive. Or perhaps the true and the potential and the actual are also per se senses of being: "however many things are signified by the figures of predication are said to be per se" and some other things are also said to be per se. But it seems rather that everything which is said to be per se is said to be in one of the categorial senses, and that it is also said to be either potentially or actually: we would then have not 10 categorial senses + 2 modal senses but 10 categorial senses \times 2 modal senses, yielding a grid of 20 senses of being. (So categorial and modal being are not so much two senses of being, each with sub-senses, as two dimensions along which the senses of being can be distinguished.) Aristotle seems to imply this when he says "being also signifies what is, on the one hand potentially, on the other hand actually, [any] of these aforementioned" (1017a35-b2), and indeed he goes on to argue that we can say "X is" when X is potentially, not only for various kinds of accidents but "also for substances" (1017b6). Unfortunately, this is no help for how being as truth is related to the other senses: we can say "not $10 + 2$, 10×2 ," but we can't say "not $10 + 2 + 1$, $10 \times 2 \times 1$." It is also discouraging that Aristotle gives "the man is musical" (1017a9) as an example of being per accidens, "the man is healthy" (1017a28) as an example of being per se, and "Socrates is musical" (1017a33) as an example of being as truth. Maybe the same sentence could signify different senses of being in different utterance-contexts, or maybe it can signify a single sense which can be located on several dimensions as once, but the examples are supposed to help us distinguish the different senses, and they are not helping much.

There are further frustrations arising from distinctions that Aristotle does not draw in this chapter. A philosopher nowadays trying to sketch the many senses of the verb "to be" might start by distinguishing existence ("there is an F," symbolically expressed as " $\exists x Fx$ "), predication ("s is F," "Fs"), identity ("s is t," "s = t"), and class-inclusion ("F's are G's," " $\forall x Fx \rightarrow Gx$ "), perhaps also e.g. an "is" of constitution, and only then start subdividing the meanings of these; but Aristotle in $\Delta 7$ ignores what we would think of as these larger divisions of senses of being. Perhaps it is too much to expect him to recognize that assertions of identity and class-inclusion are not special cases of predication. Nowadays we say that a predicative assertion "s is F" connects a constant-term [Eigennamen] with a predicate-term or (1-place) relation-term [Begriffswort], whereas an assertion of identity connects two constant-terms and an assertion of class-inclusion connects two predicate-terms, but Aristotle does not have the distinction between constant and predicate terms and so will not recognize this difference of logical form. Similarly we cannot expect him to say that existence is a second-order predicate, i.e. that in "F exists," "there is an F," the term "F" is a predicate-term rather than a constant-term. But the difference between the 1-place assertion "S is," "S exists" and the 2-place judgment "S is P" just seems obvious, with no need of modern logical theory, and this too is not among the distinctions Aristotle draws in $\Delta 7$. The large majority of the examples that he gives in $\Delta 7$ are of 2-place being, plus the "locative" assertion "Hermes [or: a herm] is in the stone" (1017b7), however we classify that, under being-as-potentiality; but the immediately following example "the half of the line [is]" (1017b7-8) seems to be 1-place being, and likewise under being per accidens, "in this way even the not-white is said to be, because what it belongs [$\sigma\upsilon\mu\beta\acute{\epsilon}\beta\eta\kappa\epsilon$] to is" (1017a18-19). For some reason Aristotle seems not to think this difference is relevant in distinguishing the main senses of being.

Aristotle's silence here has been frustrating and intriguing, not only to people brought up on Frege and Russell, but also notably to neo-Thomists like Gilson, who in Being and Some

Philosophers manages never to mention Frege or Russell or their analysis of existence. Thomas in Summa Theologiae I Q44 a2 distinguishes three successive groups of philosophers: those who recognized only non-substantial changes and their causes; those who also recognized substantial change and its causes, including substantial form and matter, but who considered being only inasmuch as it is this being or such a being, and so considered only the causes of being this or being such; and, finally, those who "raised themselves up to considering being inasmuch as it is being, and considered the cause of things, not inasmuch as they are these or such, but inasmuch as they are beings." This third group could thus see, what the first two groups could not, that "even the primary matter is created by the universal cause of beings": it cannot be generated, since generating is adding a form to an already existent matter, and ex hypothesi we are talking about the primary matter; so creation, the causing of being rather than of being-this or being-such, must be a further kind of change, to be explained in terms of esse and essence rather than of matter and form or substance and accident. (Similarly, although Thomas does not address this here, immaterial substances other than the first cause, the movers of the many heavenly spheres, cannot be generated but are nonetheless created.) Thomas is delicately ambiguous about whether Aristotle belongs to the second or the third group of philosophers, but Gilson is perfectly clear that he belongs to the second, and that he has not grasped esse in the sense of existence, the aspect or attribute of the thing that answers the question whether-it-is, as opposed to essence, the aspect or attribute of the thing that answers the question what-it-is. "[N]othing ... authorizes us to think that actual existence was included in what he called being. Of course, to him, as to us, real things were actually existing things. Aristotle has never stopped to consider existence in itself and then deliberately proceeded to exclude it from being In fact, everything goes as if, when he speaks of being, he never thought of existence [T]he is of a thing is the what of the thing, not the fact that it exists, but that which the thing is and which makes it to be a substance" (Being and Some Philosophers, pp.45-6).⁷ And Gilson and others have given explanations for why Aristotle, or more generally the Greek philosophers of his time, could not come through to a distinct conception of existence, of that-a-thing-is, as distinct from essence, what-the-thing-is. If this were true, it might explain his unconcern in $\Delta 7$ with the distinction between 1-place and 2-place assertions of being, but it is false. Posterior Analytics II sharply distinguishes the investigation what-it-is from the investigation whether-it-is, "for instance, if there is or is not a centaur or a god: I mean whether-it-is simpliciter, not whether it is white or not. And once we know that it is, we investigate what it is, for instance what [a] god is or what [a] man is" (II,1 89b32-5).⁸ Nonetheless, $\Delta 7$ ignores this distinction between 1-place ("simpliciter") and 2-place senses of "to be."⁹ Aristotle must think that, despite the difference between the singly-

⁷More from Gilson: "The primary mistake of Aristotle, as well as of his followers, was to use the verb 'to be' in a single meaning, whereas it actually has two. If it means that a thing is, then individuals alone are, and forms are not; if it means what a thing is, then forms alone are and individuals are not. The controversy on the being of universals has no other origin than the failure of Aristotle himself to make this fundamental distinction. In his philosophy, as much as in that of Plato, what is does not exist, and that which exists, is not" (p.49). "Thus, the world of Aristotle is made up of existents without existence. They all exist, otherwise they would not be beings; but, since their actual existence has nothing to do with what they are, we can safely describe them as if they did not exist" (p.50).

⁸Gilson is naturally aware of Posterior Analytics II, but thinks that for Aristotle, once we have legitimated the science of X by establishing the existence of X, that existence is then ignored in the content of the science (p.46).

⁹This contrast between $\Delta 7$ and Posterior Analytics II is correctly noted by Suzanne Mansion, Le jugement d'existence chez Aristote, p.218 and p.243. Mansion apparently thinks that the senses of being distinguished in $\Delta 7$ are exclusively senses of 2-place being, and this is wrong, but she is right that none of the distinctions he draws there are distinctions between 1-place and 2-place being, and that this should be surprising given Posterior Analytics II. Lesley Brown, in "The verb 'to be' in Greek philosophy: some remarks" (in Companions to Ancient Thought: 3,

unsaturated and doubly-unsaturated senses, it is somehow possible to infer back and forth between expressions of the form "X is" and expressions of the form "S is P," so that different senses of 1-place being will correspond to different senses of 2-place being, so that in dividing either we are implicitly also dividing the other. But $\Delta 7$ says nothing explicit about how this is supposed to work. How then is $\Delta 7$ supposed to fulfill what seems to be its function, of clearly distinguishing the different senses of being so that we can investigate them scientifically in the Metaphysics?

My main thesis is that it is possible to overcome these frustrations and make sense of $\Delta 7$, on two conditions: first, that we see Aristotle's distinctions between senses of being as instrumental to his investigation of the causes of being as developed in the Metaphysics; and second that, guided by this causal context and specifically by the account of causes of existence in the Posterior Analytics, we understand the connection between 1-place and 2-place being in a way very different from that proposed by G.E.L. Owen in "Aristotle on the Snares of Ontology" and shared (with variations) by a wide range of recent writers.¹⁰

Reading $\Delta 7$ in the context of the Metaphysics' investigation of the $\acute{\alpha}\rho\chi\alpha\acute{\iota}$ as causes of being means, in part, looking forward to EZH Θ . Aristotle needs to distinguish different senses of being because these different senses have different kinds of causes, and so it will help us to understand why $\Delta 7$ draws these distinctions, and fails to draw others, if we look ahead to what EZH Θ will say about the causes of being. But we must also look backward, in the first instance to $\Gamma 1-2$. Γ itself has to be seen in the context of the developing argument of the Metaphysics. From AB we know that, in pursuing wisdom (the most intrinsically valuable kind of knowing) we are looking for the $\acute{\alpha}\rho\chi\alpha\acute{\iota}$, the first of all things, and that we will find them as first causes, i.e. will find them by beginning with some effect and reasoning back to its causes until we reach a stopping-point of explanation. AB don't tell us what this effect is: B raises, and does not resolve, the questions whether the $\acute{\alpha}\rho\chi\alpha\acute{\iota}$ will be causes of substances or accidents or both, of one kind of substance or of all kinds (*aporai* 3-4).¹¹ $\Gamma 1$ announces an answer, that the $\acute{\alpha}\rho\chi\alpha\acute{\iota}$ will be the causes of being

Language, ed. Stephen Everson, pp.212-36), pp.233-6, notes both that Aristotle draws the existential-predicative distinction in the Posterior Analytics and that he does not do so in $\Delta 7$, and also sees that the distinctions he does draw in $\Delta 7$ crosscut with the existential-predicative distinction, but she wrongly concludes that Aristotle regards the existential-predicative distinction as unimportant.

¹⁰I recall John Cooper, in conversation, as doubting whether this article of Owen's had much influence. But Enrico Berti, "Being and Essence in Contemporary Interpretations of Aristotle" (in Individuals, Essence and Identity: Themes of Analytic Metaphysics, ed. Bottani, Carrara, and Giaretta, pp.79-107), p.83 refers to this "famous paper" of Owen as a crucial moment, and there are similar credits to Owen and to this paper in particular in Charles Kahn's "Retrospect on the Verb 'To Be' and the Concept of Being," in The Logic of Being, ed. Knuuttila and Hintikka, pp.1-28, and "Why Existence Does Not Emerge as a Distinct Concept in Greek Philosophy," in Philosophies of Existence: Ancient and Medieval, ed. Morewedge, pp.7-17. In any case Owen in this paper is largely expanding on what he had said in an earlier and unquestionably influential paper, "Logic and Metaphysics in Some Earlier Works of Aristotle," esp. LSD p.181 and n3. (However Russell Dancy, "Aristotle on Existence," also in the The Logic of Being, pp. 49-80, seems to approve of the earlier but not of the later paper, see his n1 and n3.) For my immediate purposes it does not matter too much whether Owen was the source from which this view diffused, still less what paper of Owen's was the bearer of the influence, although I would like to sort this out if possible. I take Brown's view, in the paper cited in the last footnote, to be a variation on Owen's, although she herself seems to feel there is a deep difference; how great the differences appear depends on how far away you stand.

¹¹There is a major interpretive issue here: do " $\sigma\upsilon\sigma\acute{\iota}\alpha$ " and " $\sigma\upsilon\mu\beta\epsilon\eta\kappa\acute{o}\varsigma$ " here have their technical categorial senses, or are they equivalent to "being" and "per se attribute of being," or (as I think) to "domain of being [such as might be

quâ being and of its per se attributes such as unity, i.e. causes to the things that are, of the fact that they are, and of the facts that they are each one, are collectively many, and so on. As noted earlier, Aristotle's reason is apparently that the highest causes will be causes of the most widely extended attributes, which will be being and the attributes coextensive with it; and if being or its attributes are said in several senses, we will need to distinguish these different senses in order to determine whether some one or more of them can lead us up causally to the ἀρχαί. And to this extent Aristotle seems to be placing himself among Thomas' third group of philosophers, who consider being inasmuch as it is being, and consider the causes to a thing, not just of its being such or being this, but of its being simpliciter.

This makes it sound as if we will be investigating causes of 1-place being--causes, to X, of the fact that it exists--and as if we will start by distinguishing the different senses of 1-place being. The surprise is then, when we turn to Δ7, that the large majority of examples are of 2-place being. But this is as it should be. Aristotle rejects what he thinks of as a Platonist view that, when we investigate why X exists, or why X comes-to-be, X is the persisting subject to which being is added (thus in the second Hypothesis of the Parmenides, a one-that-is must be composed of a one-constituent and an added being-constituent; in the fifth Hypothesis, a one-that-is-not can come-to-be; Plato accepts what might look like a reductio ad absurdum, that the one-constituent and the one-that-is-not must already in themselves somehow be before being is added to them). By contrast, Aristotle's own considered view, laid out in the scientific methodology of Posterior Analytics II and taken up from the Analytics especially in Metaphysics Z17-H, is that in order to investigate the causes of any instance of 1-place being, the correct method is first to rewrite it as an instance of 2-place being. If "X exists" is equivalent to "S is P," then in investigating why X exists, instead of taking X as the underlying subject and investigating why being belongs to it, we can take S as the underlying subject and investigate why P belongs to it: thus if "lunar eclipse exists" is equivalent to "moon is darkened at opposition," the fruitful approach is to investigate, not why being belongs to lunar eclipse, but why darkened-at-opposition belongs to the moon. Aristotle does not claim that every assertion of the form "X exists" is equivalent to an assertion of the form "S is P," but he does think both that this is true for a very wide range of assertions "X exists," and that, where it is not, it is not possible to investigate causally the existence of X.

Metaphysics Δ, as a general rule, draws not every distinction which could be drawn among the senses of a term, but only those distinctions which will be needed later in the Metaphysics. Δ7, in particular, distinguishes those senses of being whose causes will be investigated separately in EZHΘ: being per accidens in E2-3, being as truth in E4 and Θ10, being as divided into the categories in ZH, being as actuality and potentiality in Θ1-9. By contrast, there will not be separate investigations of the causes of 1-place being and of the causes of 2-place being, since it is not possible to investigate the causes of 1-place being except by rewriting it as 2-place being. Δ7 does not start by classifying the ways that the verb εἶναι is used (a proper survey would have to distinguish 1- and 2-place uses, as well as noting constructions such as ἔστι with dative of possession or ἔστι potential with infinitive); rather, it starts by asking how many ways τὸ ὄν is said, or how many ways something can be called ὄν. This means that the question is in the first instance about 1-place being; and this is just what we would expect from Γ1-2, the chapters which motivate the study of being and its attributes, and which thus require something like Δ. But then the best way to illustrate and distinguish each of the senses of 1-place being, with a view to investigating their causes in EZHΘ, is to give examples of the corresponding sense of 2-

the object of some science]" and "per se attribute of that domain of being"? But I'll set this issue aside for purposes of the present paper; for discussion see The Aim and the Argument Iβ2b.

place being. The logical relations between senses of 1-place and 2-place being, and the ways in which the 2-place formulations can help us to recognize the different senses of 1-place being, and, especially, help us to investigate their causes, become clearest in the account of per se or categorial being and in the accounts of actual and potential being.

Aristotle says:

However many things are signified by the figures of predication [τὰ σχήματα τῆς κατηγορίας = the categories] are said to be per se: for in however many ways they are said, in so many ways does "being" [τὸ εἶναι] signify. So, since some predicates signify what [the subject] is, others what it is like, others how much, others relation, others to act or be acted on, and others where or when, "being" [τὸ εἶναι] signifies the same as each of these: for there is no difference between "[a] man is healthy [ἄνθρωπος ὑγιαίνων ἐστίν]" and "[a] man is-healthy [ἄνθρωπος ὑγιαίνει]" or between "[a] man is walking" or "cutting" and "[a] man walks" or "cuts," and likewise in the other cases. (Δ7 1017a22-30)

There is much disagreement, and much discomfort, about what Aristotle is dividing here, and how it is distinguished from being per accidens. Owen proposed that being per se here is being in the sense of existence, which is divided into different senses when applied to beings in different categories; being per accidens would be 2-place being, or a particular kind of 2-place being.¹² By contrast, Ross and Suzanne Mansion take both being per accidens and being per se in Δ7 to be kinds of 2-place being: being per accidens when the predicate is not essential to (i.e. not part of the definition of) the subject, and being per se when the predicate is essential to the subject.¹³ Unfortunately, both of these interpretations are hopeless: against Owen, Aristotle's example-sentences for being per se ("a man is healthy," "a man is walking," "a man is cutting") are all assertions of 2-place being, and against Ross and Mansion, in all these examples the predicate is an accident of the subject rather than essential to it. So the most obvious ways of trying to distinguish per se from per accidens being will not work.¹⁴ But further study of the section on per se being, in the larger context of the Metaphysics, can shed more light on the distinction.

Owen must be right that Aristotle's account of the different senses of per se being is somehow connected with the different senses of 1-place being as said of things in different categories: but how exactly does the connection work? Aristotle's general argument in Δ7 1017a22-30 seems to be: different predicates (said according to different "figures of predication") signify what the

¹²"Aristotle on the Snares of Ontology," LSD pp.260-1 and (with doubts creeping in) pp.268-9; apparently followed by Kirwan pp.140-143. Owen's support would be De Interpretatione c11 21a25-33, where "is" is said of Homer per accidens because he is a poet. But even if being per se and per accidens here mean 1-place and 2-place being (which I doubt--he seems to be worrying here about amplified vs. non-amplified senses of "is" rather than about 1-place vs. 2-place senses, cf. Brown op. cit. pp.233-4), this interpretation as applied to Δ7 cannot make sense of the text.

¹³So Mansion op. cit., esp. pp.221-2.

¹⁴Although, since both the Owen and the Ross-Mansion proposals presuppose that being per accidens is (a kind of) 2-place being, they couldn't work anyway, since Aristotle also gives 1-place examples of being per accidens: the not-white at Δ7 1017a18-19, but also, for instance, white man at Z6 1031a19-21 (and cp. Z4 1029b22-9) is an example of 1-place being per accidens, and is clearly supposed to be related to the examples of 2-place being per accidens given in Δ7.

subject is like, how much it is, and so on; if the sentence does not already contain "is," it can be paraphrased by a sentence "S is F"; "is" here signifies something different depending on F's "figure of predication," signifying in some cases what S is like, in others how much S is, and so on. The immediate conclusion of this argument can only be that 2-place "is" signifies differently depending on the type of predicate complement attached to it. If Aristotle also concludes that 1-place "is" or "exists" signifies differently depending on the type of subject of which it is predicated, this must depend on some implicit further inference.¹⁵

Aristotle's first concern here is to defend the claim that 2-place being is said in many ways, not so much against people who might think that "is" means the same thing in "Paris is Alexander" and in "Paris is musical," as against people who deny that Paris is musical at all. Aristotle says there is no difference between *ἄνθρωπος ὑγιαίνων ἐστίν* and *ἄνθρωπος ὑγιαίνει*, but some people thought there was. In *Physics* I,2 he talks about people who, to avoid the consequence that one thing is many things, say either (like Lycophron), not that the man is white but only that he white [*ὅτι ὁ ἄνθρωπος λευκός*], or (like other unnamed philosophers) "not that the man is white but that he whitens [*λελεύκωται*], not that he is walking but that he walks, so that they should not, by attaching 'is', make the one to be many" (185b27-31); Aristotle comments that all this worry is unnecessary once we recognize that "is"--evidently 2-place "is"--is said in many ways. The opponents apparently think that 2-place "is" always signifies identity, and that this is symmetric and transitive; assuming that Socrates is white and so on, this leads to absurdities, which the opponents avoid by denying that Socrates is white. Aristotle runs the argument in the opposite direction, taking it as obvious that Socrates is white if he white or if he whitens, and inferring that 2-place "is" does not always signify identity, but is said in many ways.¹⁶

If Aristotle is to show that "however many things are signified by the figures of predication are said to be per se" (*Δ7 1017a22-3*), in what seems to be the intended sense, that things in different categories are said to exist in different senses of "exist," he will need a further inference from what he has concluded about the different senses of 2-place being. The *σχήματα τῆς κατηγορίας* or *γέννη τῶν κατηγοριῶν* are in the first instance a classification of predicates or modes of predication. If there is also a corresponding classification of *ὄντα*, as in the *Categories*, it must be derived from the classification of predicates. It seems clear enough how the derivation is supposed to work: *γραμματική*, for instance, is a being in the category of quality because "S is *γραμματικός*" is a quality-predication. Or, in general, F belongs to a certain category because "S is F", or more precisely "S is F*", where F* is paronymous from F and the subject S is assumed to be a "this" or primary substance, is a predication in the corresponding figure of predication. In the *Categories* this is a basis only for a classification of beings, not for a claim that they are in different senses. But where

¹⁵You might say that Aristotle's argument here implies that "Socrates is" (1-place) sometimes means "Socrates is somehow qualified," i.e. "for some quality-predicate F, Socrates is F," sometimes "Socrates has some quantity," i.e. "for some quantity-predicate F, Socrates is F," and so on. But, if so, this will not yield different senses of existence, predicated of things in different categories (Socrates, his color, his height, etc.), but only different 1-place senses of "is" all predicated of Socrates.

¹⁶Against the suggestion (Charles Kahn's, in "Questions and Categories," in *Questions*, ed. Henry Hiz, Reidel, 1978, pp.227-78, at p.256) that when Aristotle says "there is no difference," this shows that he is interested in analyzing predications in general and does not care whether a form of *εἶναι* is in the assertion or not; rather, he is making an argument that the verb can indeed be used in as many senses as there are figures of predication. Likewise in the section on being per accidens, Aristotle starts from predications not using any form of the verb "to be," like "the musician housebuilds" (1017a10-12), and then argues that we can also say, in similar per accidens senses, "that the just [person] is musical and the man is musical and the musical [person] is a man" (1017a8-10).

Aristotle does make this claim, as in Δ7, again it seems clear what his basis must be: γραμματική is in the way peculiar to qualities because S is γραμματικός according to the kind of 2-place being signified by quality-predications; or, in general, F is according to a certain mode of 1-place being because S is F* according to the corresponding mode of 2-place being. Since F or F* (ἡ γραμματική or ὁ γραμματικός) is only because some substance S is F*, and since this in turn presupposes that S is, 1-place being will be said πρὸς ἔν, primarily of substances and derivatively of the various kinds of non-substances.¹⁷

This seems to be the point that Aristotle is making in Γ1 1003b5-10¹⁸ and Z1 1028a10-20. Z1 1028a20-31 expands on the point by arguing that the abstracta or infinitives F are less ὄντα than the corresponding concreta or participles F*; that the reason why the concrete F* is more ὄν than the abstract F is that the concrete F* has some determinate substance as its subject; and therefore that the concrete F* is on account of this substance. Here presumably the abstract F is on account of the concrete F* which in turn is on account of the underlying substance.¹⁹ This recalls, but goes beyond, something Aristotle says in Posterior Analytics I,4 about the mode of existence of non-substances, using one of the same examples (τὸ βαδίζον) as in Z1. What exists καθ' αὐτό, in the strict sense described in Posterior Analytics I,4 (which applies only to substances, by contrast with Metaphysics Δ7, where being καθ' αὐτό applies to things in all categories) is

what is not said of some other underlying thing [ὁ μὴ καθ' ὑποκειμένου λέγεται ἄλλου τινός]: for example, the walking [thing], being something else, is walking [τὸ βαδίζον ἕτερόν τι ὄν βαδίζον ἐστί], and likewise the white, but substance, and whatever signifies a this, are not, being something else, what they are [οὐχ ἕτερόν τι ὄντα ἐστὶν ὅπερ ἐστίν]. So the things that are not καθ' ὑποκειμένου, I call καθ' αὐτά, and the things that are καθ' ὑποκειμένου I call accidents. (Posterior Analytics I,4 73b5-10)

Here to say that the F, ἕτερόν τι ὄν, is F, is not just to say conjunctively that what is F is also

¹⁷On the relationship between 1- and 2-place being I agree on many points with the view sketched by David Charles, "Some Comments on Prof. Enrico Berti's 'Being and Essence in Contemporary Interpretations of Aristotle,'" in Individuals, Essence and Identity: Themes of Analytic Metaphysics, ed. Bottani, Carrara, and Giaretta, pp.109-26. But Charles, after saying rightly that B will exist, in the sense of "exist" appropriate to qualities, "if and only if B inheres in some substance in the way that it is appropriate for qualities to inhere in substances" (p.112), then spoils it by following Owen in saying that according to Δ7 1017a22-7 "there are as many existential senses of the verb 'to be' as there are different types [of] categorical predication of the form 'A is a substance,' 'A is a quality' etc." Charles and I are broadly in agreement on Aristotle's clear distinction between 1- and 2-place being, on the importance of Posterior Analytics II in interpreting the Metaphysics on being, and on the interpretation of some disputed passages in Posterior Analytics II and in Metaphysics H2 (see below): it seems to me that it would be more in keeping with the main thrust of his argument if he simply analyzed "B exists" (where B is a quality) as "for some x, x is B*" and did not take the further step to "B is a quality." A further difference between Charles and myself is that he is very concerned with the difference between analyses of the meaning of sentences and the conditions in re which bring it about that those sentences are true: I don't disagree with what he says here, but I don't have his commitments, and am reluctant to attribute to Aristotle a well-worked out theory of meaning (although I will say a bit below on how far it is right to speak of Aristotle as "analyzing" judgments of existence). Charles and I developed our views independently, I think around the same time, and compared notes afterwards.

¹⁸Although the point in Γ1 isn't restricted to the categories, since Aristotle also says there that comings-to-be, privations, and so on, are said to be on account of their relations to substances.

¹⁹By contrast, I don't know any text that says that 2-place being is said πρὸς ἔν, i.e. that the "is" of non-essential predication is derivative from the "is" of essential predication.

something else (that it is G for some G): for this would apply even to Socrates, who is also white.²⁰ Rather, the participial clause must be construed as a causal clause, implying a logical priority: what is F is first S and then, logically afterwards, it is F.²¹ Thus τὸ βαδίζον, the paronymous F*, exists only because, being some underlying thing S which exists καθ' αὐτό, it is also F*; while, to turn to the abstracta and infinitives that Aristotle discusses in Z1, the non-paronymous F, τὸ βαδίζειν, exists not because some underlying thing which exists καθ' αὐτό is F, but because it is F*. We can say that in such a case F* exists not καθ' αὐτό and concretely, while F exists not καθ' αὐτό and abstractly.²² But in both cases, the senses in which they can be said to be (1-place) correspond to the senses in which some underlying thing can be said to be (2-place) F*.

This way of thinking about the relationship between 1-place and 2-place being, and between the many senses of 1-place being and the many senses of 2-place being, contrasts with Owen's view that for Aristotle 1-place "F is" is expandible into a sentence of the form "F is G," where this is always an essential predication: sometimes the view seems to be that "G" here is the species or lowest genus of F ("grammar is an art"), sometimes that it is a highest genus ("grammar is a quality").²³ On either version, this view can make no sense of Δ7 1017a22-30, which makes no mention of essential predications like "grammar is an art" or "grammar is a quality," and instead explains the senses of being corresponding to the different categories in terms of the different "figures of predication" through which they are said of a substantial subject. Owen recognizes the difficulty, and in an astonishing footnote pretends that it is anomalous that "there are passages where Aristotle does seem to assign the copulative 'is' a different sense in different categories" ("Aristotle on the Snares of Ontology," LSD p.269 n14).

²⁰To say that X "οὐχ ἕτερόν τι ὄν ἐστὶν ὅπερ ἐστίν" is just the negation of "the X, ἕτερόν τι ὄν, is X": "οὐκ" negates the whole phrase "ἕτερόν τι ὄν ἐστὶν ὅπερ ἐστίν" and not simply the participial clause "ἕτερόν τι ὄν"; and to say that the X "ἕστὶν ὅπερ ἐστίν" is simply to say that it is X.

²¹Thus Barnes translates "οὐχ ἕτερόν τι ὄντα ἐστὶν ὅπερ ἐστίν" as "are not just what they are in virtue of being something different" (my emphasis).

²²What exists not καθ' αὐτό and abstractly, unlike what exists not καθ' αὐτό and concretely, can be the answer to a τί ἐστί question (e.g. what is justice?), and so may in a derivative sense be called an οὐσία or even τόδε τι (thus ἡ δικαιοσύνη is ὅπερ τόδε τι but τὸ δίκαιον is not, Topics III 116a23-4); nonetheless, things that exist not καθ' αὐτό and abstractly exist in an even weaker way than things that exist not καθ' αὐτό and concretely, since their existence is parasitic on the existence of things that exist not καθ' αὐτό and concretely, whose existence is in turn parasitic on the existence of things that exist καθ' αὐτό. These distinctions are important because Aristotle will insist that matter exists καθ' αὐτό and abstractly: see discussion below.

²³At LSD p.265 "F is" is short for "F is G" where G is the category or highest genus under which F falls, so that "Socrates is" is short for "Socrates is a substance" and "courage is" is short for "courage is a quality"; this is supposed to explain why in Δ7 being per se (which Owen takes to be existential being) has just as many senses as there are categories. But Owen's proof-text in H2, no matter how it is read (see discussion below), completely fails to support this idea: it puts the εἶναι of F not in its genus but in its differentia. However, by p.269, "for [Aristotle] it is one and the same enterprise to set up different definitions of 'ice' and 'wood' and to set up two different uses of 'exist'": here the view is apparently that "man is" is short for "man is man" (or "man is wingless biped animal") and that "Socrates is" is short for "Socrates is [a] man" (or "Socrates is [a] wingless biped animal"). As Gareth Matthews points out in "Aristotle on Existence" (Bulletin of the Institute of Classical Studies, v.40 [1995], pp.233-8), and as Owen himself seems to recognize on p.265, this implies that sentences like "Rufus and Rosy are" are illegitimate, since "Rufus is" is short for "Rufus is a cat" and "Rosy is" is short for "Rosy is a ferret." A philosopher might, in the Russellian type-theoretic spirit, reject "Socrates and his whiteness are," but to extend this to cats and ferrets is going too far. Lesley Brown, in the article cited above, broadly follows Owen's approach to existential and predicative εἶναι but thinks that "F is" is equivalent to "∃G (F is G)", with no predicate favored over any other (except that ampliating or alienating predicates, e.g. "possible" or "non-existent," are ruled out).

Owen thus proposes to explain "the odd lines 1017a27-30 in Metaphysics V 7" by positing that "for red to exist is for it to be a quality, so for red to belong to A is for it to be a quality of A"; therefore "B belongs to A" would have different senses depending on what category B falls under, and therefore its equivalent "A is B" would also have different senses. This is completely backwards: Aristotle takes the difference among the "figures of predication" as obvious, not as needing to be justified by the much more obscure difference among the senses of 1-place being. (Owen's view would also have the consequence that "green is a color" is a ποιόν ἐστι predication.) But Δ7 1017a22-30 is in no way anomalous or isolated: even setting aside texts on the senses of being corresponding to the different categories (such as Z1, or Physics I,2 on Lycophron and his friends), it is Aristotle's consistent view that to analyze "F exists," and in particular to make it amenable to causal investigation, we need not to expand the predicate-term "is" but rather to move the subject-term "F" to predicate position. At Λ6 1071b12-13, "εἰ ἔστι κινητικὸν ἢ ποιητικόν, μὴ ἐνεργοῦν δέ τι, οὐκ ἔσται κίνησις", it would be absurd to expand "οὐκ ἔσται κίνησις" as "motion will not be a kind of being-acted-on": rather, there will be no motion because things will not be moved, because nothing will be moving them. "When the man is-healthy [ὑγιαίνει], then too health exists" (Λ3 1070a22-3)--not "when health is a quality." Likewise in analyzing "health comes-to-be" it will not help either to supply a predicate, "health comes-to-be G," or to posit a persisting subject, health, which makes the transition from non-existence to existence like the One of the fifth Hypothesis of the Parmenides: rather, causal investigation becomes possible only once we rewrite "health comes-to-be" as "some living thing comes-to-be healthy." It is true, as Owen and Gilson insist, that Aristotle sometimes equates "F exists" with "F is F": thus in De Anima II,4 the soul is the cause as οὐσία of ensouled bodies, "for the cause of being [αἴτιον τοῦ εἶναι] to all things is the οὐσία, and for living things to live is to be [τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι ἐστίν], and the soul is the cause and ἀρχή of this [sc. of living]" (415b12-14).²⁴ But the soul is the cause of being to living things by being the cause, to some S, of the fact that it is living, and Aristotle is here applying his rule that the οὐσία of F is the cause of the fact that F exists, i.e. the cause, to some appropriate S, of the fact that it is F (or F*), as the οὐσία of whiteness is the cause, to some surface, of its being white, and the οὐσία of eclipse is the cause, to the moon, of its being eclipsed.

Someone may object here that the case of accident-terms like "white" is different from the case of substance-terms: it may be that, when F is an accident, Aristotle analyzes "F exists" as something like "∃x Fx", where the quantifier ranges over something like substances,²⁵ and so takes the cause of the existence of F to be the cause of "∃x Fx", or the cause of some instance "Fs"; but substances themselves, as the basic items of which everything else is predicated, must exist in some more basic way not captured by the existential quantifier.²⁶ I agree that Aristotle

²⁴Owen also claims that in Metaphysics H2 Aristotle analyzes "ice exists" as "ice is solid." I think this is wrong: see discussion below.

²⁵"Something like" because of the example of whiteness, where surfaces are not substances; but perhaps "surface exists" can be further analyzed as "body is bounded."

²⁶Owen was thinking something like this when he tried to distinguish being* from being**: being** is something like the existential quantifier, but being* would be something more robust, which when asserted of animals would be equivalent to their being alive. But Owen did not limit being* to substances. For Owen's distinction between being* and being** see discussion below. In drawing such a distinction Owen was largely following Peter Geach, "Form and Existence" (originally in the Proceedings of the Aristotelian Society, v.55 [1954-5], pp.251-72, reprinted in Geach's God and the Soul, Routledge and Kegan Paul, 1969, pp.42-64, and elsewhere; a closely related text is published as the second chapter of Anscombe and Geach, Three Philosophers, Blackwell, 1961). Owen cites Geach in "Aristotle on the Snares of Ontology" at LSD p.266 n12 and the text above, but in a way that would give the

does not hold that existence is a second-order predicate, and sees nothing wrong with statements like "F exists" even where "F" is an individual substance-term; and I agree that we cannot keep analyzing "F exists" as "some S exists and is F" forever, but must reach something whose existence is primitive. But even if the existence of a substance cannot be analyzed into something ontologically more primitive, in the way that the existence of a quality can be analyzed into some substance's existing and being somehow qualified, the existence of a substance may still in many cases be equivalent to something of a form resembling " $\exists x Fx$." Aristotle thinks that we can investigate the cause of the existence of the substance only if we restate its existence in this form, and that if its existence cannot be restated in this form, we cannot investigate it causally at all.

To see how Aristotle is thinking about the οὐσία of a thing as the cause of its existence, and about how the existence of a thing must be formulated in order to investigate its causes, we have to turn to Posterior Analytics II,1-10. Aristotle's main concern in these chapters is with the investigation of what X is--that is, with the search for definitions--but he claims that, unless X is a primitive in some science, the correct scientific definition of X will be equivalent to an explanation of why X is. I have already mentioned this text for its distinction between investigations whether X is, simpliciter, and investigations whether S is P. More fully, Aristotle distinguishes four kinds of scientific questions or investigations, whether X is, what X is, whether S is P, and why S is P (described II,1). His fundamental claim is that there is an analogy: what-X-is is to whether-X-is as why-S-is-P is to whether-S-is-P. That is: the answer to "what is X?" will state the cause of the fact that X exists, just as the answer to "why is S P?" states the cause of the fact that S is P; and just as we cannot know why S is P unless we know that S is P, so we cannot know what X is unless we know that X is. This may seem surprising: for how can we know that X exists, or investigate whether X exists, if we don't yet know what X is--how will we know how to search for X, or, even if we find it, how will we recognize it? But Aristotle answers that, while we cannot know what X is if we do not know that X exists (or if X does not in fact exist), we can still know what the term "X" means. For instance, even if we do not know whether there are lunar eclipses (and so certainly do not know why there are lunar eclipses, and thus do not know what lunar eclipses are), we can know that "[lunar] eclipse" means (say) "darkening of the moon at opposition," or similarly that "thunder" means "noise in the clouds." We can then go on to grasp that eclipse or thunder exists "grasping something of the thing" (II,8 93a21-2), although we do not yet grasp its full definition.

Aristotle says that when we ask whether X is, or whether S is P, we are asking whether there is a middle term, and that when we ask what X is, or why S is P, we are asking what that middle term is (II,2 89b37-90a1). He does not mean that, when we ask whether X is, we are asking whether there is a middle term between X and being: the Posterior Analytics does not mention "being" as a term in any scientific syllogism. Rather, once we have glossed "eclipse" by "darkening of the moon at opposition," or "thunder" by "noise in the clouds," we can ask whether there is a middle term between "moon" and "darkening at opposition" or between "cloud" and "noise." Sometimes Aristotle says that we are investigating whether there is a middle term, and what the middle term is, between "cloud" and "thunder" rather than between "cloud" and "noise"; but if thunder is just noise in clouds, then to ask whether or why thunder belongs to clouds is just

unwary reader little hint of the depth of his dependence. Geach was attributing the distinction between two senses of being to Thomas, in order to show that Thomas had correctly recognized a sense of existence that is not captured by the existential quantifier, but Geach might not have objected to attributing much of the same content to Aristotle--his Thomas is much less anti-Aristotelian than Gilson's. (Gilson, had he known what the existential quantifier was, would surely also have thought there was a more robust sense of existence which it failed to capture.)

to ask whether or why noise belongs to clouds (he goes back and forth between the two formulations, apparently without noticing it, at II,8 93b9-12). To know why there is thunder (or why "it thunders," using the impersonal verb "βροντᾶ"), i.e. to know the middle term between noise and cloud, namely extinction of fire, is the same as knowing what thunder is, namely that it is "extinction of fire in cloud" (II,8 93b8) or more fully "noise of extinction of fire in cloud."²⁷

In some cases, where X is a primitive in some science, there is no cause for the existence of X, and the science, in addition to positing what the term "X" means, must also hypothesize that there are X's, as geometry hypothesizes that there are points and straight lines and circles, and arithmetic that there are units (so already Posterior Analytics I,10, in a general account of the kinds of principles assumed by each science; taken up again II,9). In other cases, where X is non-primitive, the science posits what "X" means and proves that X exists, as geometry posits what "irrational" means (Aristotle's example, I,10 76b9, see Euclid Xdef3) and proves that irrational lines exist, or posits what "dodecahedron" means (XIdef28) and proves that dodecahedra exist: in such cases, in demonstrating that X exists we learn simultaneously that X exists and why X exists, and thus what X is. In other cases, as where X = eclipse, we first learn by observation that X exists, then demonstrate from the appropriate causes that X exists, and thus learn why X exists and what X is. In all cases where X is not a primitive, scientific understanding requires us to demonstrate that X exists, and we can only do this if we can rewrite "X is" as "S is P," e.g. "eclipse is" (an example of 1-place being in Posterior Analytics II,2) as "the moon is eclipsed" (an example of 2-place being in the same chapter) or as "the moon is darkened at opposition." The pre-scientific formulation of what "X" means is supposed to help us do this, but it may require some delicacy to specify the appropriate subject-term "S." Thus while lunar eclipses occur when the moon suffers some πάθος, it is not true that solar eclipses occur when the sun suffers some πάθος. Sometimes the appropriate subject-term is plural, as in the example of consonance (II,2 90a18-23), where the subject is "the high and the low." In all these cases, to demonstrate that X exists, we are not trying to demonstrate that every S is P, but, typically, that some S is P (in the case of eclipse, where there is only one S, the moon, we are trying to demonstrate that S is sometimes P). In all these cases, to specify S, we need to find the per se subject of X--the S such that, whatever else X is predicated of, it is predicated of because it is first predicated of S, the subject which is present in the definition of X as nose is in snub or number in odd. So rather than quantifying over all beings and analyzing "X exists" as "something is X" (or "something is X*," "something is eclipsed" rather than "something is an eclipse"), we will quantify only over the relevant domain of which X is predicated, "some S is X." Then if possible we will refine "S is X" into "S is P" to avoid repetition ("eclipse exists"→"something is eclipsed"→"the moon is eclipsed"="the moon has darkening of the moon at opposition"→"the moon is darkened at opposition"), and then look for a middle term between S and P. And while someone might object that such an analysis is possible only when X is an accident, Aristotle thinks that it must also be possible for substances, at least for those substance-terms which are definable, which God and the moon (being objects of science, but necessarily individual) are not. While the examples whose definitions are worked out in Posterior Analytics II (eclipse, thunder) are accidents, these are intended as easy paradigms for the more difficult and interesting cases where X is a substance. (Aristotle mentions man and soul alongside eclipse and thunder at II,8 93a21-24, and triangle might be a substance for all we know in the Posterior Analytics, although

²⁷For the fuller formulation see II,2 90a14-18, "in all these things it is clear that what-it-is and why-it-is are the same. What is an eclipse? Privation of light from the moon due to screening by the earth. Why is there an eclipse, or why is the moon eclipsed? Because the light fails when the earth screens it."

on Aristotle's view it isn't.) Posterior Analytics II is Aristotle's general account of definition, and if substance-terms cannot be defined in the way there described, they cannot be defined at all. As we will see below, when Aristotle in Metaphysics ZH confronts an aporia (Z13 1039a14-23) purporting to show that substance-terms cannot be defined, he tries to show that they can be defined, and how they can be defined, precisely by calling on Posterior Analytics II.

We thus learn from Posterior Analytics II that in order to define X we must give a cause of 1-place being to X, and that in order to do this we must reformulate this instance of 1-place being in terms of 2-place being, separating out "X exists" into two terms between which we can find a middle. In the Metaphysics, the order of concerns is different: Aristotle is now concerned primarily not with defining but with investigating the causes of being (in the first instance, of 1-place being) in order to discover the ἀρχαί, although this investigation will also lead him in Metaphysics ZH to a discussion of definition, which in Z17 and the following chapters calls directly on Posterior Analytics II. But given what we have seen from Posterior Analytics II about how to investigate the causes of being, it is unsurprising that Δ7, distinguishing the senses of being with a view to investigating their causes (in the first instance, causes of 1-place being), should mainly give examples of 2-place being. It is also unsurprising that the distinction between (2-place) being per se and being per accidens should be central to Δ7, and that the examples of 2-place being per se should not be of predicates which are contained in the definition of their subject: for there is no investigating either the causes of being per accidens (why is the white musical?), or the causes of a genus' or differentia's being predicated of a species (why is white a color?). Rather, to express "music exists" or "the musical exists" so as to make it amenable to causal investigation, we must reformulate it as "something/someone is musical," or, more accurately, as "some man is musical," if man is the per se subject of the art of music (and Δ7's examples of what is said per se or per accidens are all exempli gratia, not implying any dogmatic commitment). Because "S is F" is said in different ways according to the different categories, "F exists" will also be said in different ways according to the different categories. To look for the cause of "F exists" is not to look for something that supplies existence to F, perhaps a separate Form of being (if such a causal route succeeded, it would be a very quick way to an eternally unchanging ἀρχή as a cause of being universally, but it does not succeed), but rather for something that supplies F-ness to some subject, and primarily to the per se subject of F.

As we know from the Posterior Analytics, the αἴτιον τοῦ εἶναι of F, in this sense, is the οὐσία of F, i.e. the answer to τί ἐστὶ F, construed as asking for the essence or definition. Δ7 doesn't say anything about this--it never explicitly talks about causes--but Δ8 says that one of the senses of οὐσία is "whatever is a cause of being [αἴτιον τοῦ εἶναι], present in such things as are not said of a subject, as the soul [is the cause of being] to an animal" (1017b15-16).²⁸ Often enough Aristotle refers to "the οὐσία of F" as one of the kinds of cause of F, namely the formal cause: thus in the first aporia of Metaphysics B, when he asks whether wisdom is the science of the final, the formal or the efficient cause or of all three, his name for the formal cause is "ἡ οὐσία" (996b14, clearly equivalent to "τὸ τί ἐστὶν", b17). In this sense too the De Anima says that "the soul is a cause both as that whence the motion and as the for-the-sake-of-which and as

²⁸I argued in "Metaphysics Z10-16 and the Argument-Structure of Metaphysics Z" that this sense of οὐσία (the second listed in Δ8) is supposed to include both the whole essence (the fourth sense) and the parts of the essence (the third sense).

the οὐσία of ensouled bodies: that it is [a cause] as οὐσία is clear, for the cause of being [αἴτιον τοῦ εἶναι] to all things is the οὐσία, and for living things to live is to be [τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι ἐστίν], and the soul is the cause and ἀρχή of this [sc. of living]" (II,4 415b10-14, partly cited above). Aristotle is here claiming that the soul is the οὐσία of the animal or plant, which was not the standard view either among physicists or among Academics. (A standard Academic definition of animal might have been something like "composite of soul and body," see Topics VI,14 151a20-31; the pseudo-Platonic Definitions, under "soul," say that it is "cause of vital motion of animals," 411c7, but say nothing about its being their formal cause.) To support this claim, he takes the premiss from the Posterior Analytics that the οὐσία of F is the αἴτιον τοῦ εἶναι to F, that is, the cause, to the subject of F (and primarily to the per se subject of F) of its being F. Since the per se subject of "living" is a potentially living body, or more helpfully an organic natural body, and since the soul is the cause to such a body of its being alive, the soul would be the οὐσία of a living thing.

This investigation of the cause of F's existence, construed not as something like being-itself but as the οὐσία or formal cause of F, might lead to a separate eternal Form of F. If it did, that would be a way that the investigation of the causes of being quâ being could lead to eternally unchanging ἀρχαί, fulfilling the program of Metaphysics Γ1 and E1; Aristotle thinks this causal route has much better prospects of succeeding than the route to a separate being-itself. In fact, of course, Aristotle thinks that this route does not succeed either, and a main burden of Metaphysics Z is to prove this. While Aristotle has a battery of arguments to this effect, one important reason why he thinks this route to separate eternal substances cannot succeed is that, as reflection on the methodology of definition shows, the essence of F is inseparable from the per se subject of F. As Aristotle says in Posterior Analytics I,4, S is F per se, not only if F is in the essence of S, but also if S in the essence of F, "as straight and round belong to line, and as odd and even, prime and composite, square and nonsquare belong to number, where line or number belongs in the λόγος saying τί ἐστίν for all of these [attributes]" (73a38-b3). This does not mean that S belongs in the definition of F as a genus or a differentia; rather, it means that F cannot be defined directly, but only in the way that "snub" is defined. "Snub" cannot be defined either as "concave" or as "concave nose," we cannot say directly what the snub is, or what it is for something in general to be snub, but only what it is for a nose to be snub, namely, that it is for it to be concave,²⁹ likewise, the only way to define "even" or "prime" is to say what it is for a number to be even or prime, and this is what Euclid in fact does, VIIdef6 and VIIdef12. If F is predicated of anything at all (and if it isn't, it won't be definable), there must be some appropriate underlying nature S of which it is predicated per se, and if the only essence of F, the only what-it-is-to-be-F, is what-it-is-for-an-S-to-be-F, then the essence of F will be inseparable from this underlying nature S. Aristotle thinks this holds equally whether F is an accident or a substance. He argues in Metaphysics Z5 that things in non-substance categories are always ἐκ προσθέσεως (his technical term for things said like "snub") and therefore do not have definitions or essences in the primary sense--so, in particular, not essences that could be separated from their per se subject. If F is an accident its per se subject will be either some appropriate genus of substances, or perhaps some more fundamental kind of accident, as the per se subject of whiteness is surface: since the only essence of whiteness is what-it-is-for-a-surface-to-be-white, it cannot exist separately from surfaces. (To show that it also cannot exist separately from bodies, Aristotle will have to show that surfaces cannot exist separately from bodies, that for a surface to be is for some body to be bounded; and to show that it cannot exist separately from sensible bodies, he will have to show

²⁹For a detailed account see Aim and Argument IIγ1b.

that there are no separate mathematical bodies. He does not make either of these arguments in Z, but he does in M2-3.) If, on the other hand, F is a natural substance-type, it cannot be defined without reference to its function and thus to motion and to the matter which is moved in the appropriate ways: "all natural things are said like the snub, like nose, eye, face, flesh, bone, and animal as a whole, leaf, root, bark, and plant as a whole: for the λόγος of any of these is not without motion, they have a matter in every case" (Metaphysics E1 1025b34-1026a3, cf. Physics II,2 193b36-194a7). Even concave, which unlike the snub can be defined without reference to motion or to natural matter, cannot be defined without reference to its appropriate matter, geometrical extension, which Metaphysics M will argue cannot exist separately from sensible things. Because the essence of F is inseparable from the per se subject of F, looking for this kind of cause of being will not lead us to the kind of ἀρχαί that first philosophy is seeking; it will still lead to knowledge of some kind of cause, falling under some science, typically physics.³⁰

By contrast, if we look for the cause of being-F, not to the per se subject of F, but to something else, G, there will be no cause of G's being F--no cause of, say, the white's being musical--but, at best, one cause to a subject S of its being F, and another cause to S of its being G, with no further cause explaining why these two predicates should belong to the same thing. So the investigation of the causes of (2-place) being per accidens will not lead to any science at all. Now for some purposes it may not matter too much how we describe the thing that is F: we can use a name merely to pick out the thing, like a pronoun. F exists if this is F or that is F, and we can ask for the causes of this thing's being F. So "G is F," even where G is not the per se subject of F, can still in a sense be a way of stating being per se, if we ignore the connection that it is asserting between G and F and attend only to what it is saying about F.³¹ However, if we are trying to investigate the causes of F's existence, following the methodology of Posterior Analytics II, then it is important, not just to restate "F exists" in terms of 2-place being, "[some] G is F," but to restate it in terms of 2-place being per se rather than per accidens, "S is F" where S is the per se subject of F, or "S is P" rewritten to avoid repetition (as above, "eclipse exists"→"something is eclipsed"→"the moon is eclipsed"→"the moon is darkened at opposition"), so that we can look for a middle term between S and P. If F exists per se, and if F is predicated of anything at all, then we should be able to restate "F exists" in terms of 2-place

³⁰Recall that Metaphysics E1 says it belongs to physics, rather than to first philosophy, to study the forms of natural things, because they cannot be grasped apart from matter and motion; similarly in Parts of Animals I,1 it belongs to physics to study those kinds or parts of soul which are correlative with matter, while it belongs to first philosophy to study νοῦς, which is correlative with its intelligible objects and so must be treated by the same discipline. The only passages where Aristotle says that first philosophy studies forms, Physics I,9 192a34-b2 and II,2 194b9-15, are demarcating, saying that natural and corruptible forms belong to the physicist, and eternal and separate forms (that is, Platonic forms if there are any) to the first philosopher (presumably it also belongs to the first philosopher to examine arguments for the existence of Platonic forms, and to show that these arguments fail). Metaphysics Z11 1037a10-17 asks why, in pursuing first philosophy, we have been talking about the forms of sensible things, since the physicist is concerned with the form as well as with the matter, and answers that we are doing this for the sake of other substances beyond the sensibles--presumably because we need to investigate the Platonic claim that the formal cause of a sensible substance is an eternal unchanging substance beyond the sensibles. There are no texts suggesting that the same form might be treated both by physics and by first philosophy, e.g. by physics as a cause of motion and by first philosophy as a cause of being: it is always either one or the other. I discuss all these texts, and others that might be relevant, in "Wisdom as the Science of the Four Causes?" (to appear, in French translation, in Aristote: Physique et Métaphysique, dir. Jonathan Barnes, ed. Maddalena Bonelli, forthcoming from Vrin).

³¹Compare Ernst Tugendhat's proposal, in "Über den Sinn der vierfachen Unterscheidung des Seins bei Aristoteles (Metaphysik Δ7)," in his Philosophische Aufsätze (Suhrkamp, 1992), pp.136-44, that one and the same assertion "S is F" can simultaneously have the essential function of asserting that F exists (equivalently, that it belongs to some subject, $\exists x Fx$), and the incidental function of connecting two descriptions of the same subject, "S" and "F."

being per se. If, however, F is something like white musical, there is no way that "F exists" can be rewritten as a per se predication which could have a cause, and so there is no essence of F to apprehend and no science of F; in such a case F has (1-place) being only per accidens.

We can now also see why Aristotle in Δ7 bothers to distinguish being per se, not only from being per accidens, but also from being as truth. Aristotle says:

Being [εἶναι] and 'is' also signify that [something is] true, and not-being that [it is] not true but false, equally in affirmation and in negation, e.g. that Socrates is musical [ἔστι Σωκράτης μουσικός] because this is true, or that Socrates is not white [ἔστι Σωκράτης οὐ λευκός], because that is true; whereas the diagonal is not commensurable [οὐκ ἔστιν ἡ διάμετρος σύμμετρος],³² because this is false. (1017a31-5)

The difference that Aristotle is bringing out here between being as truth and being per se is not that being as truth is 2-place and being per se is 1-place, or that being as truth is predicated of linguistic objects and being per se of non-linguistic objects, or that being as truth is predicated of propositionally structured objects and being per se of objects not so structured, but rather that being as truth is said "equally in affirmation and in negation" and being per se is not. It is obvious that an assertion like "S is not F" denies a being, denies S's being F; but Aristotle is noting that, in one sense, "S is not F" also affirms a being, S's being-not-F. The point of preposing "ἔστι" in "ἔστι Σωκράτης οὐ λευκός" is precisely to make clear that "ἔστι" is being construed as not falling under the scope of the negation-sign.³³ It is reasonable to use "true" to mark this sense of being, since we can say that "not white" is true of Socrates just as "musical" is, whereas "commensurable" is false of the diameter (or we could say that "Σωκράτης μουσικός" and "Σωκράτης οὐ λευκός" are true and "ἡ διάμετρος σύμμετρος" is false--there is obvious circularity if we try to explain by saying that "Σωκράτης μουσικός ἔστι" and the like are true).³⁴ There seems to be no reason why this sense of being could not, like the others, apply to 1-place being: the not-white is because it is true of something, just as the musical is because it is true of something. But there is no essence of not-white, and so no cause to investigate in the sense in which we can investigate the cause of a surface's being white, and so no science (much less first philosophy) is a science of the not-white.

One reason why Aristotle finds this worth mentioning is that Plato in the Sophist says that the beautiful is no more "among beings for us" than the not-beautiful (257e9-11), and that "not-being ... does not fall short of any of the others in being [οὐσίᾳ]" (258b7-10), but rather "stably is, having its own nature: just as the large was large and the beautiful was beautiful and the not-large was not-large and the not-beautiful was not-beautiful, so too not-being in the same way was and is not-being, counting as one form among the many that are" (258b11-c4). However, in the Timaeus he says that it is not accurate to say that not-being is not-being, or that the future

³²Reading the necessary σύμμετρος (in two manuscripts of Alexander's commentary, 372,6-9, "L" = Ab and A ante correctionem), with Bonitz Christ Jaeger Ross, against Bekker and apparently all manuscripts ἀσύμμετρος.

³³Aristotle in De Interpretatione chapter 10 says that the negation of ἔστι δίκαιος ἄνθρωπος is οὐκ ἔστι δίκαιος ἄνθρωπος rather than ἔστιν οὐ δίκαιος ἄνθρωπος (19b26-30 and context), a distinction he does not draw in Δ7. To the extent that we draw this distinction, the "negation" οὐκ ἔστι δίκαιος ἄνθρωπος will not affirm a being, but will only deny a being. It remains that ἔστιν οὐ δίκαιος ἄνθρωπος does assert a being (namely a man's being not just), that the word-order of this sentence is chosen to make clear that the "is" does not fall under the scope of the negation-sign, and that such a being occurs as much with a negative predicate as with an affirmative predicate.

³⁴For F being "true of" or "false of" S see Metaphysics Δ29 1024b26-8.

[γενησόμενον] is future, or that the having-come-to-be or having-happened [γεγονός] is having-come-to-be or having-happened, or even that the now-coming-to-be or now-happening [γιγνόμενον] is coming-to-be or happening (38a8-b5).³⁵ Aristotle does not need to take sides on whether it is correct to say that the not-beautiful or not-being is; he takes such passages instead as testimony that "is" is said both in a looser sense that is said "equally in affirmation and in negation" and in a stricter sense that is said only of things affirmed in one of the categories. (It is also said in a still stricter sense that applies only to things said as substances.) I take it that Aristotle does mean to implicitly criticize the Sophist, but not simply for saying that not-being is. Rather, the point is that if Plato does not distinguish the kind of being that applies even to negations from the kind that applies only to things affirmed in the categories, or from the kind that applies only to things said as substances, then his arguments that the investigation τί ἐστὶ F leads to separate eternal substances will, if valid, prove not only Forms of substances and Forms of accidents but even Forms of negations, a conclusion which Plato does indeed seem to accept in the Sophist but which Aristotle regards as manifestly absurd.³⁶ Aristotle's reason for teasing out the concepts of being as truth and of being per accidens, and distinguishing them from being per se, is to mark out the senses of being which are too broad and too weak to possibly yield valid arguments for (or successful causal routes toward) separate eternal substances, and are indeed too weak for causal investigation of them to yield any science at all. Distinguishing these senses of being and then setting them aside helps us to clarify the concept of being per se, and to focus on it as a sense of being whose causal investigation does lead to genuine science, and might plausibly lead to the science we are seeking. Further argument will show that the causes of being in the senses corresponding to the non-substance categories, or the investigation τί ἐστὶ F where "F" is an accident-term, will not lead to separate eternal substances, and that the investigation of the causes of being-as-substance, or of the τί ἐστὶ of substances, are more likely to do so; and still further argument will show that these do not either.

If we look ahead to Aristotle's treatment in Metaphysics ZH of the senses of being corresponding to the categories, and primarily of being as substance, we can see that it confirms the kind of connection between 1-place and 2-place being, and between the causes of 1-place and of 2-place being, that we would expect from Posterior Analytics II, and that it does not, as Owen maintains, confirm the "expandibility" view of 1-place being.

Metaphysics EZHΘ, carrying out the program of Γ1-2, look for the ἀρχαί by investigating causes of being, distinguish the senses of being according to Δ7's division in order to distinguish the causes of being and to focus on the more promising ones, and restate 1-place being in terms of 2-place being in order to make it amenable to causal investigation. After E2-4 have examined and dismissed the study of the causes of being per accidens and of being as truth, and after E has concluded by saying "so let these be set aside, and let us examine the causes and ἀρχαί of being

³⁵Plato's meaning here is not entirely clear: "τὸ γεγονός" might mean something past, as "τὸ γιγνόμενον" means the temporal present and "τὸ γενησόμενον" means the future, all opposed to an eternal "is." But "τὸ γεγονός" might instead mean "what has come-to-be and therefore now 'is,'" again opposed to an eternal "is"; in which case Aristotle might be directly criticizing this passage at Metaphysics B4 999b11-12, "τὸ γεγονός ἀνάγκη εἶναι ὅτε πρῶτον γέγονεν". The Timaeus passage looks to be a sorites argument: if you are going to say that τὸ γεγονός is, you should also say this of τὸ γιγνόμενον, and then (fairly absurdly) also of τὸ γενησόμενον, and then (manifestly absurdly) also of τὸ μὴ ὄν.

³⁶This is Aristotle's explicit strategy of argument at Metaphysics A9 990b8-991a8.

itself quâ being" (E4 1028a2-4), ZH take up the investigation of the senses of being corresponding to the categories; and after Z1 argues that substance is prior to what is in the other categorial senses, the other senses are mostly dropped. Z1-16 do not make heavy use of causal language, despite what one might expect both from the promise at the end of E and from the retrospective at the beginning of H ("it has been said that we are seeking the causes and ἀρχαί and στοιχεῖα of substances," H1 1042a4-6). Still, throughout Z3-16, Aristotle is investigating the οὐσία of a given thing, usually itself a substance: that is, he is examining the question "what is F?", with a view to determining whether the οὐσία of F is something existing separately from F and prior (eternally prior) to F, as notably a Platonic form would be, but also an ultimate matter or irreducible material constituent.³⁷ As we know from Posterior Analytics II, the investigation "what is F" is implicitly causal, and Aristotle uses explicit causal language in summarizing the results of Z4-9 ("the cause [which consists] of the forms, as some are accustomed to speak of forms, if they are things beyond the individuals, is of no use at least [as a cause of] comings-to-be and existings [πρός γε τὰς γενέσεις καὶ τὰς οὐσίας]: so that they would not, at least for these reasons, be substances in themselves," Z8 1033b26-9) and in introducing the issue of the universal in Z13 ("some people think that the universal is most of all a cause, and that the universal is an ἀρχή", 1038b6-8). But Z17, taking a new turn after the negative conclusion of Z10-16 ("none of the things said universally is a substance, and no substance is [composed] out of substances," Z16 1041a3-5), explicitly reframes the inquiry as a causal investigation:

Let us as it were start again and say what, and what kind of thing, substance should be said to be: for perhaps from these [considerations] it will also become clear about that substance which is separate from the sensible substances. So since substance is an ἀρχή and a cause, let us proceed from here. The "why" [τὸ διὰ τί] is always sought in this way, why one thing belongs to another thing. (Z17 1041a6-11)

So far Aristotle has been investigating the οὐσία of F as the answer to "τί ἐστὶ F," as it would be expressed by a definition of F, to see whether this investigation leads to some kind of ἀρχή existing prior to the manifest sensible F's: not only does it not lead to anything beyond the sensibles, it has led to an aporia against the possibility of defining at all ("if neither can any substance be out of universals, on the ground that [a universal] signifies a such rather than a this, nor can any substance be a composite out of substances in actuality, then every substance would be incomposite, so that there would be no λόγος of any substance," Z13 1039a14-19). Aristotle now tries to find a way out of the aporia by calling on the thesis of Posterior Analytics II,1-10, that the scientific way to answer what F is is to look for the οὐσία of F as a cause, that is, to investigate why F is (the reference to the Analytcs is sealed by the examples of eclipse, 1041a16, and thunder, 1041a24-5). And, as Aristotle immediately says, to do this we must restate the explanandum in terms of 2-place being, "why one thing belongs to another thing."

Against Ross' view that the Posterior Analytics account of definition can apply only to accidents, in the context of Metaphysics Z17 it is clear that Aristotle is mainly investigating τί ἐστὶ as asked of substances: the aporia from Z13 that he is trying to resolve was an aporia only against giving a λόγος of substances (since there is no problem about a non-substance being

³⁷I develop my views on the argument-structure of these chapters briefly in "Metaphysics Z10-16 and the Argument-Structure of Metaphysics Z" (Oxford Studies in Ancient Philosophy, v.21, Winter 2001, pp.83-134), much more fully in Part II of The Aim and the Argument.

composed out of non-substances), but that was a problem because "everyone thinks, and we have said before, that there is a definition either only of substance or especially of substance, and now, it seems, not even of that" (Z13 1039a19-20). He now says in Z17 that it is possible to define a substance-term "F" if, as is often the case, the existence of F can be restated as one thing's belonging to another thing: "what we are investigating remains undiscovered especially in things that are not said one of another, e.g. when we investigate what man is, because it is said simpliciter [i.e. with a 1-place 'is'] rather than determining that these are this. But we must articulate and then investigate; otherwise there will be no difference between investigating something and investigating nothing" (Z17 1041a32-b4).³⁸ Z17 makes rather more explicit than the Posterior Analytics how to unpack 1-place being in terms of 2-place being. As usual, non-substance cases give the easiest illustrations, but are meant to shed light on the more difficult and important substance cases. So Aristotle says that "investigating why the musical man is a musical man" (1041a11-13) should be rephrased as "investigating ... why the man is musical" (a13-14), since there is no investigating why a thing is itself (a14-20). The unpacking of "the musical man is a musical man" into "the man is musical" illustrates the process of specifying the per se subject. To ask why the musical man is a musical man, if it isn't just inquiring into a tautology, is to ask why this thing, which is in fact a musical man, is a musical man. But since the per se subject of musical man, the only thing which can be a musical man, is a man, we can replace "why is this a musical man" with "why is the man a musical man," and then we can eliminate the repetition and replace this with "why is the man musical." Probably there is no definition of musical man, because probably there is no middle term explaining why the man is musical, but the case of musical man gives a model for the case of a substance-term, where the per se subject is the matter. We must investigate "why the matter is something."³⁹ E.g., why are these things a house? Because there belongs [to them] what it is to be a house. And why is this, or this body in this condition,⁴⁰ a man? So we are seeking the cause by which the matter is something;⁴¹ and this is the οὐσία" (1041b5-9). So to investigate why man or house is (and thus what man or house is) is to investigate why this is a man or a house, or why these things are a man or a house, or why this S is a man or a house, or why some S is a man or a house, where S is the appropriate matter for a man or a house.

³⁸The reader should be warned that the text of Z17 is troubled (see the next four footnotes). At 1041a33 J's μη κατ' ἄλλων is possible, and Ab's μη καταλλήλως ("not correctly") just might be right; the μη κατ' ἀλλήλων printed by Christ and Ross and Jaeger may be right, but the basis is thin. (Pseudo-Alexander 541,26-7 reports κατ' ἀλλήλων [without μή] as a variant on what he takes to be the usual reading, μη καταλλήλως. These editors are wrong in saying that the scholia in the lower margin of E report the variant μη κατ' ἀλλήλων: E's main text is nonsense, something like ἐν τοῖς μη κατ' ἄλλωμένοις, evidently a miscopying of ἐν τοῖς μη κατ' ἄλλων λεγομένοις, and the scholia report two variants, of which the second is ἐν τοῖς μη κατ' ἄλλων and the first is ἐν τοῖς μη καταλλήλως or just conceivably ἐν τοῖς μη καταλλήλοις, but not ἐν τοῖς μη κατ' ἀλλήλων--it does not have an apostrophe after the τ, and the abbreviation after the final λ is wrong for -ων [see πραγμάτων just to the left]). In b2-3 I agree with these editors that Ab must be right against JE, with τάδε τόδε against τάδε ἢ τόδε and also with διαρθρώσαντας against διορθώσαντας.

³⁹Accepting (with Ross and Jaeger) Christ's τὴν ὕλην ζητεῖ διὰ τί <τι> ἐστίν, and taking "τὴν ὕλην ζητεῖ ..." as the "lilies of the field construction." It is not obvious what the subject of ζητεῖ is.

⁴⁰Accepting (with Christ and Frede-Patzig) Bonitz' conjecture ὡδὶ ἔχον for τοδὶ ἔχον. (However, I do not think Bonitz and Christ and Frede-Patzig are right to say that this is supported by ps.-Alexander 541,32-4.)

⁴¹With Christ (and Jaeger and Frede-Patzig) bracketing τοῦτο δ' ἐστὶ τὸ εἶδος. The transmitted text might be defended, following a suggestion of André Laks reported by Burnyeat (Map of Metaphysics Zeta, p.60 n124), if we construe "the cause of the matter, namely the form by which it is something" (this is in fact the construal implied by the punctuation in Bekker, but not in Bonitz or Ross). But it is difficult to describe the form simply as the cause of the matter, rather than the cause by which the matter is something.

In every case, when we restate the explanandum "F is" in terms of 2-place being, "F" winds up as in predicate-position, not in subject-position. So too at 1041a26-7, "why are these things, e.g. bricks and stones, a house?". The only contested passage is at 1041a20-21, which according to the two oldest manuscripts (J and E) reads "ζητήσῃε δ' ἄν τις διὰ τί ὁ ἄνθρωπος ἐστὶ ζῶον τοιονδί", "one would investigate [not why a man is a man but] why man is thus-and-such an animal." However, it seems clear that the other main branch of the manuscript tradition (represented by Ab and M) is right to read "ζητήσῃε δ' ἄν τις διὰ τί ἄνθρωπος ἐστὶ ζῶον τοιονδί", with "ζῶον τοιονδί" as subject and "ἄνθρωπος" as predicate, "one would investigate [not why a man is a man but] why thus-and-such an animal is a man."⁴² Here "thus-such-an-animal" is parallel to "these things, e.g. bricks and stones" at 1041a26-7. Aristotle is sticking here to his insistence that the genus is the matter for the species, so that we could take the subject of which F is predicated to be either the matter of F (in the ordinary sense) or the genus of F. Indeed, this is not supposed to be merely an analogy: his programmatic view in ZH, never fully worked out, is that if we describe the matter appropriately, and if we describe the genus appropriately, they will be the same thing, as something like "plane figure" or "two-dimensional extension" is the genus and matter of pentagon, the letters β and α collectively are the genus and matter of the syllable βα (the differentia would be "with the β before the α"), and organic natural body, natural body, and body are the successively more general genera or matters of living thing. (As we will see, in H2 he takes "differentia" as correlative to "matter" rather than, as usual, to "genus.")⁴³ In either case "F" remains in predicate position. If F cannot be taken as a predicate of anything, "it is clear that there is no investigation or teaching in the case of simples, but rather a different mode of investigating such things" (Z17 1041b9-11, the immediate follow-up to saying that we seek the οὐσία of F by investigating why the matter is F, 1041b5-9 as cited above).⁴⁴

Now Owen, in "Aristotle on the Snares of Ontology," tried to break the connection between the Metaphysics' investigation of being (and especially of being as substance) and the Posterior Analytics' account of the εἰ ἔστι and τί ἐστὶ questions. Owen tried to distinguish two senses of 1-place being in Aristotle, being* and being**, which he admitted that Aristotle never quite disentangled. Being**, the object of the Posterior Analytics' εἰ ἔστι question, might be expressed by the existential quantifier, so that F is** iff something is F; but being*, which Owen took to be the sense of "being per se" in Metaphysics Δ7, is something more robust, such that for living things to be* is for them to live: for F to be* is for F to be G, where G is always an essential predicate of F (the infima species? the category as the highest genus of F?). Owen took Metaphysics H2, in particular, to say that "a threshold is, in that it is situated thus and so: 'to be' means its being so situated. And that ice is means that it is solidified in such and such a way" (Owen's translation of H2 1042b26-8, LSD p.264--I will come back to the issues of text and construal in this passage). Owen resorted to extraordinary measures to deny the relevance of the Posterior Analytics, or of anything like a quantifier-analysis of existence, to ZH. He speaks of

⁴²Most editors print the reading of JE, ὁ ἄνθρωπος; Ross however prints ἄνθρωπος. Ross' intended construal is thus that of JE, not that of Ab; but if he is right, Aristotle wrote the ambiguous ANΘΡΩΠΙΟΣ, and in that case I think the construal without the article is much more plausible. For M I am relying on the unpublished collation of Michel Crubellier.

⁴³The issue of genus and matter needs a fuller discussion, on which there is a start in "Metaphysics Z10-16 ..." n53 and the text above it, and much more in The Aim and the Argument IIδ and IIε.

⁴⁴Presumably the "different mode of investigating" is not properly speaking investigating the simple thing F, i.e. starting from F and determining its essence, but either starting from something else G and reaching the simple thing F (as some sort of cause of G, perhaps a constituent in its λόγος), or else starting from a vaguer description of F and reaching the conclusion that F is simple and cannot be further determined. See further discussion below.

the Analytics' "hesitations over existential statements" (LSD p.271), and says condescendingly (p.270) that it "draws a formal distinction between the question whether A exists and the question what A is, and even, at the start of one tangled argument, treats the second question as arising after the first has been settled (89b34-90a1)," although "it amends this later" (at 93a21-33, which does nothing of the kind--it merely says that to know that thunder exists we must know that is a noise in the clouds). Owen manages throughout his article never to mention Metaphysics Z17, which would have made it obvious that Aristotle takes the "tangled argument" of Posterior Analytics II as the key to understanding the relationship between that F is and what F is, and so to discovering the οὐσία of F.

Owen notwithstanding, H2 is part of a carefully developed continuous argument, Z17-H6, which applies the "new start" of Z17 to show how to give the λόγος of a given thing F, and to solve the aporiai against the possibility of definition.⁴⁵ This does not mean that H is simply applying the idea that the οὐσία of a thing is the form as the cause of unity to its many material constituents, but, as I argued in "Metaphysics Z10-16 and the Argument-Structure of Metaphysics Z," that is not the main thesis of Z17. Z17 asserts that the οὐσία of F is the cause, to the per se subject of F, of its being F, and that this cause will be neither a στοιχείον of F, nor itself composed of στοιχεία. It does not say that the οὐσία of F is, in general, the cause of unity to the many στοιχεία of F. In general, as we know from Z12, the οὐσία of F is the (ultimate) differentia of F, and this is sometimes, but not always, the cause of unity to many στοιχεία: the differentia of βα will be the cause of this β and this α being a single syllable and not simply two στοιχεία, but in a straight genus-differentia definition as described in Z12 ("definitions by division," Z12 1037b27-9) the highest genus and the intermediate differentiae are already unified by themselves (each differentia entails the higher genera and differentiae) and so do not need the ultimate differentia to unify them. However, the case where the οὐσία of F is the cause of unity to the many στοιχεία of F is useful for Aristotle, since in this case infinite regress arguments make it especially obvious that this cause can neither be one more στοιχείον of F (for it would need a further cause to unite it with the other στοιχεία), nor be itself composed of στοιχεία (for these would need a further cause to unite them with each other). Part of what it means to say that the οὐσία of F is not a further στοιχείον of F, added to the matter or the genus or the plurality of other στοιχεία of F, is that the οὐσία of F is not something which could exist independently of this other στοιχείον or of these other στοιχεία and would then need to be added to it/them: rather, the οὐσία of F is inseparable from the στοιχείον/στοιχεία as snub is inseparable from nose, can exist only when predicated of it/them, and does not need anything else to unite it to it/them. And, as we know from Z12, the ultimate differentia of F is inseparable from the genera and higher differentiae of F in this way.

In all this, Aristotle's negative emphasis is that we cannot discover the λόγος τῆς οὐσίας of F by enumerating its στοιχεία (whether these are the material constituents of F, the kind of στοιχεία that the physicists would cite, or the genera of F, the στοιχεία that the Platonist dialecticians would cite: for this way of putting the issue, see the sixth aporia of Metaphysics B, B3 998a20-b14): such an enumeration can at best give us the per se subject of F, which is of itself potentially F but not of itself actually F. Aristotle's positive emphasis is that we can discover the λόγος τῆς οὐσίας of F by first discovering the per se subject of F (whether we think of this as the matter or the genus of F) and then investigating the cause why this is F. The point

⁴⁵I give a quick description of how all this works in "Metaphysics Z10-16 ...", and a fuller discussion in The Aim and the Argument IIe. Myles Burnyeat in his Map of Metaphysics Z reached partly similar conclusions about H and its relation to Z17.

that emerges from Z17 is not just that the οὐσία of F is its form (if Z17 mentions form at all, it is only in "τοῦτο δ' ἐστὶ τὸ εἶδος" at 1041b8, which many editors delete as a gloss):⁴⁶ a Platonist opponent might agree that the οὐσία of a thing is its form, and yet think that this form is itself a στοιχεῖον or composed of στοιχεῖα, since the form and matter might be conceived as στοιχεῖα combining to compose the thing, or the genera and differentiae might be conceived as στοιχεῖα combining to compose the species or form. Nor is the point just that the οὐσία of F is the ultimate differentia of F, since even this might be conceived as a further στοιχεῖον added to the genera and higher differentiae: "nor is man animal and biped, but there must be something beside these, if these are matter, something which is neither a στοιχεῖον nor [composed] out of a στοιχεῖον, but the οὐσία; but they leave this out, and state [only] the matter" (H3 1043b10-14). But if we first find the S which is the appropriate subject of F, and then find the differentia which explains why (this) S is F, the differentia should be inseparable from S as snub from nose. And this is how Metaphysics H proceeds. H1 (after the recapitulation of results 1042a3-24), says how to find the matter of F, broadly distinguishing matter for local motion from matter for generation and corruption (H4 says much more about how to specify the οἰκεία ὕλη of each thing). Then H2 says that "since the οὐσία as subject and as matter is agreed, and this is what is potentially [i.e. potentially οὐσία, or potentially F], it remains to say what the οὐσία as actuality of the sensibles is" (1042b9-11). And Aristotle says, not as we might expect that this is the form, but that it is the differentia, and he immediately stresses, against attempts to reduce the list, that there are diverse kinds of differentiae appropriate to different things: "some things are said through the composition of the matter, as whatever are said through blending, like honey-water; other things are said through tying, like a bundle; others by gluing, like a book [i.e. a scroll]; others by nailing, like a box; others by several of these; others by position, like a threshold and a lintel [at the bottom and top of a doorway respectively], for these differ by being placed [κεῖσθαι] in a certain way; others by time, like dinner and breakfast; others by place, like the winds; others by affections of the sensibles like hardness and softness, denseness and rareness, dryness and wetness, and some by some of these and some by all of these, and, in general, some by excess and some by deficiency" (1042b15-25). Quite a few of these differentiae (blending, tying, gluing, nailing) are causes of unity to plural subjects, but the other examples are not, and all of these differentiae are on the same footing.

This, then, is the context for the comment which Owen took as his main (only?) support in the Metaphysics⁴⁷ for the concept of being*, where for F to be* is for F to be G, where G is some essential predicate of F: "so it is clear that 'is,' too, is said in so many ways [as there are kinds of differentia]. A threshold is, in that it is situated thus and so: 'to be' means its being so situated. And that ice is means that it is solidified in such and such a way" (H2 1042b25-8, where I am quoting Owen's translation, LSD p.264, except for the first sentence, which he does not translate). Now this passage of H2 has several textual and interpretive difficulties, some of which Owen mentions in a footnote. At least manuscripts JEAb have

ὥστε δῆλον ὅτι καὶ τὸ ἔστι τσαυταχῶς λέγεται· οὐδὲς γὰρ ἔστιν ὅτι οὕτως
κεῖται, καὶ τὸ εἶναι τὸ οὕτως αὐτὸ κεῖσθαι σημαίνει, καὶ τὸ κρύσταλλον
εἶναι τὸ οὕτω πεπυκνῶσθαι.

⁴⁶See n39 above.

⁴⁷There is also De Anima II,4 415b13, cited above.

Owen agrees with Ross, I think rightly, in defending this transmitted text and rejecting the emendations proposed by Bonitz and Jaeger, which would read in technical phrases like τὸ κρυστάλλῳ εἶναι, essence-of-ice.⁴⁸ But it remains unclear what the subjects of κείσθαι and πεπυκνῶσθαι are, and whether ἔστιν and εἶναι are existential or predicative, "a threshold exists" or "it is a threshold," "for ice to exist" or "for it to be ice." Owen favors the existential reading, which he says is supported by the passage a few lines below, "if indeed the οὐσία is a cause τοῦ εἶναι ἕκαστον, we must investigate in these cases what is the cause τοῦ εἶναι τούτων ἕκαστον" (1043a2-4), and indeed he is probably right both that εἶναι in this latter passage is existential, and that it supports the existential reading in the earlier passage. But what 1043a2-4 also brings out is that Aristotle is immediately relying on Z17, which is in turn relying on the Posterior Analytics, and that Z17 and the Posterior Analytics take the οὐσία of F, the cause of F's being, as the cause of S's being F, or the cause of S's being P if F can be spelled out as SP. As Aristotle says a few lines further on, "if we have to define threshold, we will say [that it is] wood or stone placed [κείμενα] in this way [ὡδί], and that a house is bricks and logs placed in this way (or in some cases also it is that for the sake of which); if ice, water that has been solidified or condensed [πεπηγός, πεπυκνωμένον] in this way; harmony [συμφωνία], thus-and-such a mixture of high and low" (1043a7-10). So, as for harmony to be is for high and low to be harmonized, i.e. to be mixed in a particular way, so for ice to be is for water to be ice, i.e. for water to have been solidified or condensed in a particular way--and not, as Owen says, for ice to be solidified in this way.⁴⁹ And we will spell out the definitions further, filling in the "in this way" or "thus-and-such," by citing a further cause for S's being P and thus F, e.g. for the high and low to be mixed harmoniously is for them to be mixed according to a multiple or epimoric ratio (see Posterior Analytics II,2 90a18-23). So when the Posterior Analytics is arguing that the middle term is the cause not only of (1-place) being but also of (1-place) becoming and past and future being, "what is ice? Let it be assumed that it is solidified water. Let C be water, let A be solidified, and let the middle B be the cause, the complete departure of heat. Then B belongs to C, and A, having-been-solidified, belongs to B [and thus A belongs to C, and thus there is ice]. And ice comes-to-be when⁵⁰ B comes-to-be, and has come-to-be⁵¹ when B has come-to-be, and will be when B will be" (II,12 95a16-21).⁵² So for ice to be is for water (not ice) to have been solidified in a certain way, and the οὐσία of ice will be given by the ultimate differentia which determines the particular way in which the water is solidified, namely by the influence on water (not on ice) of the complete departure of heat. So H2 gives no support to Owen's claim that Aristotle is interested in a notion of being*, where for F to be* is for it to be G, for ice to be* is for it to be solidified; rather, he is working with the familiar notion of being** from the Posterior

⁴⁸Bonitz, followed by Jaeger, emended τὸ κρυστάλλον εἶναι to τὸ κρυστάλλῳ εἶναι. Bonitz was also uncomfortable with τὸ εἶναι τὸ οὕτως αὐτὸ κείσθαι σημαίνει, in part because οὐδός, to which αὐτό seems to refer back, is masculine rather than neuter: he printed the transmitted text but suggested reading instead τὸ εἶναι αὐτῷ τὸ οὕτως κείσθαι σημαίνει; Jaeger prints instead τὸ εἶναι <οὐδῶ> τὸ οὕτως αὐτὸ κείσθαι σημαίνει (I don't understand why Jaeger's apparatus suggests that Bonitz supports this). Jaeger may be right that pseudo-Alexander 548,36-7 supports his text, but it is not clear whether τὸ εἶναι οὐδῶ at 548,36 is what the pseudo-Alexander read or just his paraphrase, and τὸ κρυστάλλῳ εἶναι at 548,37 is supported by a single manuscript of the 16th (!) century, the other manuscripts having τὸ κρυστάλλον εἶναι. For Owen on the textual question see LSD p.264 n10.

⁴⁹Here I think I am entirely in agreement with David Charles, in the article cited above. Owen explicitly rejects this reading of H2, and the more general interpretation of 1-place being that goes with it, at LSD pp.268 and 274.

⁵⁰Genitive absolute.

⁵¹Or "has been," "was," taking γεγονέναι as suppletive perfect of εἶναι.

⁵²The examples of being and coming-to-be here are 1-place; even clearer in the parallel example just above, II,12 95a14-16, of why an eclipse γέγονεν, γίνεται, and ἔσται.

Analytically, where for F to be** is for some S to be F, or for some S to be G if F is equivalent to SG, for ice to be** is for some water to be ice, or to be solidified.⁵³

What is perhaps most curious is that Owen, in struggling against the grain of the Aristotelian texts, seems to have been guided by a principle of charity. It seems a strange application of charity to deny Aristotle an analysis of "F exists" as something like " $\exists x Fx$ ", but Owen was following the fashion of the time, which denied that such formal analyses were adequate to ordinary language and experience, and insisted that things owed their existence and identity to the sortals under which they fell. However, before we get too charitable to Aristotle, it is important to note some differences between his analysis of existence and Frege's. First, Aristotle does not use anything like an unrestricted existential quantifier: he analyzes "F exists" not as "something is F" but as "some S is F," quantifying over the range of things that are capable of being F. Second, Aristotle is not very interested in the quantifier-word "some," and often says just "S is F" rather than "some S is F"--as we would expect, given that he takes the default-meaning of "S is F" to be equivalent to "some S is F." Third, Aristotle does not draw Frege's distinction between object-words and concept-words, but (with some caveats) allows any term to stand in both subject and predicate positions; so existence can be predicated of anything, not just of "concepts," and Aristotle is not saying that it is a "second-order concept." When he says that F exists because some S exists and is F, he is not eliminating the apparent use of "exists" as a first-order predicate, but rather showing how the derivative existence of F depends on the primitive existence of some S.

But this raises a deeper issue: in what sense is Aristotle analyzing the judgment "F exists"? He intends his account of the $\epsilon\acute{\iota}$ $\acute{\epsilon}\sigma\tau\iota$ and $\tau\acute{\iota}$ $\acute{\epsilon}\sigma\tau\iota$ investigations to hold equally for substance and non-substance cases, and especially in the Metaphysics the non-substance cases are developed chiefly as a model for the harder but more interesting substance cases. So in H2, after going through a list of things and their differentiae, "none of these things is a substance, even when taken together [with the matter], but they are what is analogous [to substance] in each case; and as in substances what is predicated of the matter is the actuality itself, so too in the other definitions [the predicate rather than the subject is] especially [the actuality]" (1043a4-7).⁵⁴ But if F is a substance and S is the matter it is predicated of, surely Aristotle cannot want to analyze the existence of F as depending on the more primitive existence of S. In fact, his direction of analysis is the reverse. Recall that, when Aristotle analyzes the existence of (say) a quality as derivative from that of its substantial subject, he can analyze either "F exists" where "F" is an abstract quality-term such as "γραμματική", or "F* exists" where "F*" is the paronymous concrete term, such as "γραμματικός". F* exists, not $\kappa\alpha\theta'$ $\alpha\upsilon\tau\acute{o}$ and concretely, because S exists $\kappa\alpha\theta'$ $\alpha\upsilon\tau\acute{o}$ and is F*; F also exists, not $\kappa\alpha\theta'$ $\alpha\upsilon\tau\acute{o}$ and abstractly, because S exists $\kappa\alpha\theta'$ $\alpha\upsilon\tau\acute{o}$ and is F*, and the existence of F is derivative from the existence of F* which is in turn derivative from the existence of S. But Metaphysics $\Theta 7$ says that matter has the same status as qualities, that is, that it exists not $\kappa\alpha\theta'$ $\alpha\upsilon\tau\acute{o}$ and abstractly:

⁵³H4 also makes clear that Aristotle is relying on the Posterior Analytics account of being** and of the οὐσία of a thing (given in its scientific definition) as the cause of its being**, rather than turning to a new notion of being*. The overall point of the discussion of the four kinds of cause at H4 1044a32-b20 is not just that we must cite all the causes in order to explain something, but that we must cite them to define something, whether a substance (1044a34-b8) or a non-substance (1044b8-20): he develops the example of the eclipse in the same way as in the Posterior Analytics, and says that "the [cause] as form is the λόγος, but it is unclear unless the λόγος is accompanied by the cause" (1044b12-13).

⁵⁴There are several construal difficulties in this passage, but they will not affect the point that H2 has been interested in non-substance examples of subject-differentia definition chiefly as analogical models for defining substances.

It seems that what we call not this [τόδε] but that-en [ἐκείνινον]--as the box is not wood but wooden, and the wood is not earth but earthen, and [likewise] if the earth too is not something else but something-else-en--that [ἐκεῖνο, e.g. the wood] is simpliciter potentially the posterior thing [e.g. the box]. Thus the box is not earthen or earth, but wooden, for this [sc. wood] is potentially a box and this is the matter of a box, wood simpliciter of box simpliciter and this wood of this box. And if there is some first thing which is no longer called that-en with respect to something else, this is first matter: thus if earth is air-y, and air is not fire but fier-y, fire would be the first matter, not being a this. For that-of-which [τὸ καθ' οὗ], i.e. the subject, differs, in that one [subject] is a this and another is not. Thus man, both body and soul, is the subject of the affections,⁵⁵ and musical or white is an affection (when music has come-to-be-in [the subject], [the subject] is called not music but musical, and the man is called not whiteness but white, not a walk or a motion but walking or moving, as being that-en). So in cases of this kind [sc. where the subject is a this, and is called paronymously from the affection] the ultimate thing is a substance: but in the other kind of case, where what is predicated is a form and a this, the ultimate thing is matter and substance-in-the-sense-of-matter. And the result is correct that "that-en" is said both with respect to the matter and with respect to the affections: for both are indeterminate.⁵⁶ (1049a18-b2)

Here the made-up pro-adjective "that-en" [ἐκείνινον] stands in for any paronymous term, whether it is formed by adding -ινον on the end or in any other way. Aristotle's main controversial claim is that when S has become T, where S is the matter of T and this is a genuine substantial change, T should not be called S, but only S*, using the appropriate paronymous term.⁵⁷ Uncontroversially, when Socrates has become white or musical, he continues to be called S (Socrates), but is called F* (white or musical, not whiteness or music); and this is a linguistic reflection of the fact that "S" signifies what he is [τί ἐστι] whereas "F" signifies only what he is like [ποῖόν ἐστι]. Aristotle is saying that while this is true for accidental changes, it is not true for substantial changes. His target here is the Timaeus, which says that if someone shapes gold into triangles and other shapes and "if someone pointed to one of them and asked what it is, by far the safest in respect of truth would be to say that it is gold, and as for the triangle and all the other figures that arise in it, never to say 'these things are' ... but rather to be content if they will accept 'such' with some stability" (50a7-b5): thus "gold" signifies what they are, while "triangle" signifies only what they are like, and they should correctly be called triangular rather than triangles. Aristotle need not disagree with any of this in the case of the gold becoming triangular, since this is probably just an accidental change, but Plato is taking gold's coming-to-be triangular

⁵⁵Reading Jaeger's comma after ἄνθρωπος; otherwise "man and body and soul." (Jaeger's idea is that the human soul is the subject of music and the human body is the subject of whiteness.)

⁵⁶Here too there are a number of textual issues, but I agree with both Ross and Jaeger on the main ones: Ab's κατ' ἄλλο rather than JE's κατ' ἄλλου at a25, JE's ἐκείνινον rather than Ab's ἐκεῖνο ὄν in the same line, JE's οὐ τόδε τι οὐσα rather than Ab's εἰ δὲ τόδε τι, οὐσία at a27, and Apelt's emendation τὸ καθ' οὗ for the manuscript τὸ καθόλου at a28.

⁵⁷He is also claiming that "is the matter of" or "is potentially" is not transitive: if R is the matter of S and S is the matter of T, then if it were correct to say that T is S and that S is R it would also be correct to say that T is R; but since it is correct only to say that T is S* and that S is R*, it does not follow even that T is R*, let alone that it is R.

as a model for the coming-to-be of earth, water, air and fire, and saying that the correct answer to "τί ἐστὶ" asked of any of them is their common matter, the "receptacle," and that within the sensible realm only this ultimate material ἀρχή is properly called "this" (Timaeus 49a7-50a2). Aristotle attacks this passage directly in On Generation and Corruption: "things which have alteration are like this, but things that have [unqualified] coming-to-be and passing-away cannot be called [by the name of] that from which they came-to-be; but nonetheless he says that 'by far the truest is to say that each of these is gold'" (II,1 329a18-21). His claim, then, is that if gold's coming-to-be triangular is genuine substantial change, then if we ask "τί ἐστὶ" of the result, the correct answer is "triangle," and it is correctly called triangle rather than triangular, whereas "gold" signifies only what it is like, and it is correctly called golden rather than gold. The matter for substantial change thus has the same status as music or whiteness, signifying what something is like rather than what it is, or being a "such" rather than a "this": "the result is correct that 'that-en' is said both with respect to the matter and with respect to the affections: for both are indeterminate" (Metaphysics Θ7 1049a36-b2 as above). The paronymous expression "musical" or "golden" is correct, because to call something musical or golden does not determine what it is. But if the musical or the golden exists, there must be something which is musical or golden; in Aristotle's terminology the musical or golden, ἕτερόν τι ὄν, is musical or golden. So the musical or the golden exists not per se and concretely, because some substance exists and is musical or golden; and music or gold exists not per se and abstractly, again because some substance exists and is musical or golden. So, to return to our question, Aristotle cannot say that the composite substance exists because this matter exists and has this form; he thinks the reverse, that the matter exists because this composite substance exists and is composed out of this matter.

Nonetheless, Metaphysics H makes it clear that when F is a substance, as when F is an accident, we will find the οὐσία of F by finding the cause for F's existing, and that we will do this by first finding the per se subject of F, call it S (if F is a substance, S will be its appropriate matter), rewriting "F exists" as "S is F," and investigating the cause for S's being F. So what Aristotle must think is that "[some] S is F" or "[some] S exists and is F" is, in the case where F is a substance, not an analysis of "F exists" into something more fundamental, but simply an equivalent that makes "F exists" amenable to causal analysis. Not every judgment of the form "F exists" has such a 2-place equivalent: notably, if F is a simple immaterial substance, it does not. This does not imply that the judgment "F exists" in these cases is meaningless, or that the grammatical form in which it is expressed is misleading as to its logical form. It does, however, imply that it is immune to causal analysis. "It is clear that there is no investigation or teaching in the case of simples, but rather a different mode of investigating such things" (Z17 1041b9-11, as above)--that is, we investigate some complex effect and trace it back to a simple ἀρχή, which cannot itself be investigated further. As Aristotle says later, "those things which are just a being [ὅπερ εἶναι τι] and an actuality, about such things there is no being deceived, but rather either thinking them or not; but the τί ἐστὶ is investigated about them, whether they are such or not" (Θ10 1051b30-33): the only way to "investigate" such a simple substance, beginning perhaps with a relational description like "the mover of the sun's zodiacal motion," is to investigate whether it is a simple substance, and, if the answer is yes, the investigation ceases. There is no scientific definition of such things, and there is no cause for their existing. The thesis that none of the many movers of the many heavenly motions have a cause for their existing is unacceptable to Avicenna or St. Thomas, but it is what Aristotle thinks. But the right conclusion is not that Aristotle has no concept of existence or is not looking for causes of existence, but that he has a way of thinking about existence that leads him to the conclusion that non-composite things do

not have causes of their existing. And this is precisely what leads Avicenna and Thomas to prefer a different way of thinking about existence, on which, with Plato and against Aristotle, we will explain the fact that F exists, not by finding a cause that supplies F-ness to something which is not of itself F, but by finding a cause that supplies existence to an F that does not of itself exist.

The investigation of the causes of being in the sense divided into the categories, and in the first instance the causes of being as substance, leads us to real causes and to a real science, but not to wisdom, since it does not lead us to separately existing eternal causes. The form of a composite substance is inseparable from the matter and exists only as long as the composite does (species-forms are eternal but non-substantial and exist derivatively from the existence of individuals), and the matter itself does not exist separately, but derivatively from the existence of the composite. Consequently, at the end of ZH, we need some different direction to get us to the desired ἀρχαί, knowledge of which will constitute a wisdom beyond physics. But this does not mean--as it might well seem to--that we must give up on the project of looking for the ἀρχαί as causes of being, since there are also further senses of being whose causes can be investigated. And this is why Aristotle adds, after what had seemed a comprehensive listing of the senses of being, "being also signifies what is, on the one hand potentially, on the other hand actually, [any] of these aforementioned [kinds of being]" (Δ7 1017a35-b2), and adds at the end of Δ7 (1017a35-b9) a section discussing these senses of being, designed to support Metaphysics Θ's new approach to the ἀρχαί as causes of being in these senses. (It is striking that Δ7 ends with a clear reference forward to Θ7--"when it is δυνατόν [i.e. when S is potentially F, or when F potentially exists] and when it is not yet, let it be determined elsewhere," 1017b8-9, cp. Θ7 1048b37-1049a1 and 1049b2-3--which has as far as I know never been denied even by those who think that Δ is not an intended part of the Metaphysics.)

Once again, the argument-structure of this section of Δ7 is not at first sight clear: in particular, it is not clear either how 1-place and 2-place senses of being relate here, or how the senses of being described here relate to the senses of being divided according to the categories. And the argument-structure of Metaphysics Θ is even less clear: it is not clear, notably, how the study of being-in-potentiality and being-in-actuality, announced at Θ1 1045b32-5, is related to the study of δυνάμεις, powers, which occupies most of Θ1 and Θ2 and Θ5. We can better understand both Δ7 1017a35-b9 and Θ if we read them together, and if we see how the distinction between different senses of being is supposed to connect with a study of causes of being in these different senses, which will be candidates to be the ἀρχαί that are the objects of wisdom.

The first thing to stress is that the concept of δυνάμεις, powers, was already commonplace before Aristotle's time: e.g. the Hippocratic On Ancient Medicine speaks of δυνάμεις in the human body which (in their interactions with δυνάμεις in the nutriment and the environment) are the sources of health and disease, and Plato in the Sophist says that "δύναμις either for acting or for being acted on" is the mark of being (247d8-e4). Furthermore, a δύναμις is a kind of ἀρχή: as Aristotle himself says, those δυνάμεις which are so called not merely homonymously "are all some ἀρχή, and are said in relation to a single first [kind of δύναμις], which is an ἀρχή of change in something other [than its bearer] or [in the bearer itself] quâ other" (Metaphysics Θ1 1046a9-11, drawing on Δ12). Of course these need not be ἀρχαί in the strict sense (they need not be prior in οὐσία to all other things), but it is an obvious question whether the ἀρχαί in the strict sense are ἀρχαί in this way, as δυνάμεις, or in some other way. Aristotle seems to think

that most of the physicists had thought of their first ἀρχαί as δυνάμεις or as causes κατὰ δύναμιν, the bearers of δυνάμεις. To illustrate, the art of housebuilding is a δύναμις and the housebuilder, the bearer of the art of housebuilding, is a cause κατὰ δύναμιν, and both can be called causes of a house, but not in the same way as a housebuilder-housebuilding, who is an ἐνεργοῦν cause of a house (for these kinds of causes see Metaphysics Δ2 1014a19-25 and a bit more fully Physics II,3 195b16-28); the art of housebuilding is an active δύναμις, and so it and its bearer are potential efficient causes, but presumably we can also say that a passive δύναμις and its bearer are potential material causes. It would be reasonable to say that, of the ἀρχαί that Anaxagoras posits as existing before the ordered world, νοῦς is a potential efficient cause (it is not yet actually acting or making anything) and flesh and so on are potential material causes; we could say similar things about the demiurge and the receptacle of the Timaeus. Indeed, there is a plausible argument that whatever efficient and material ἀρχαί there were before the world came to be must have been merely potential efficient and material causes, since if they were already acting in their characteristic ways they would already have produced a world. The question whether the first ἀρχαί are δυνάμεις (or bearers of δυνάμεις) or rather are already acting causes (ἐνέργεια like the act of housebuilding or ἐνεργοῦντα things like housebuilder-housebuilding) is equivalent to the question whether δύναμις or ἐνέργεια is prior: this is the question that, under various formulations, Aristotle raises in B6 1002b32-1003a5 and tries to resolve in Θ8 and Λ6. Aristotle's own view, of course, will be that the first ἀρχή has, indeed essentially is, an ἐνέργεια, and is from eternity an always-already-acting cause.

Given this background, it is natural that Aristotle in inquiring into the ἀρχαί would be interested in δυνάμεις and the contrasting kind of causes for which he develops the terminology of ἐνέργεια.⁵⁸ It is natural, in particular, that he should discuss these kinds of (in a broad sense) ἀρχαί and their priority-relations in Θ. Against this background, what is more striking and noteworthy is that Aristotle says that there are also distinct senses of being δυνάμει and ἐνεργεία (or as Δ7 says ἐντελεχεία), and uses these senses of being to integrate the discussion of δυνάμεις as ἀρχαί (and thus of whether the first of all things is a potential or an actual cause) into the EZHΘ program of solving questions about the ἀρχαί by investigating the causes of being in various senses. By contrast with the earlier discussions of δυνάμεις as ἀρχαί, the adverbial dative δυνάμει "potentially" seems not to be found before Aristotle,⁵⁹ and while the phrase κατὰ [τὴν] δύναμιν certainly exists, as far as I know before Aristotle it always means "within the limits of one's ability," never "potentially rather than actually."⁶⁰ In particular, nobody before Aristotle speaks of a sense of being δυνάμει or κατὰ δύναμιν; nor, of course, do they speak of being "actually," being in ἐνέργεια or ἐντελέχεια, since this is the default sense of being and only needs terminology when there is a sense of being in δύναμις to contrast it with. Indeed, while Aristotle says already in the Protrepticus that "to live is said in two ways, in one way κατὰ δύναμιν and in another way κατ' ἐνέργειαν" (B79), his meaning there is that "S lives" means sometimes that S has a certain power, sometimes that S exercises that power by acting or being acted on in a certain way. Aristotle argues in Protrepticus B79-81 that we use the verbs "see" and "sense" and "know" in these two ways (we say "S knows geometry" in one sense

⁵⁸Although note that, contrary to what is often said, the term "ἐνέργεια" is attested before Aristotle: it is in Alcidas On the Sophists 28 for what living things have and their sculpted images do not.

⁵⁹A line is "δυνάμει δίτους", "two feet in square," at Statesman 266b3; the good-itself exceeds οὐσία "πρεσβεία καὶ δυνάμει" (Republic VI 509b8-10), but this doesn't mean "potentially." These are, so far, the closest I've found to adverbial uses of "δυνάμει" before Aristotle.

⁶⁰There is a detailed study of the history of this phrase in the dissertation of David Lefebvre, "Capacité, force et puissance: sur la g n se et les sens de la notion aristot licienne de δυνάμεις" (Paris-I, 2000), v.1, pp.23-214.

even of a sleeping geometer, in another sense only of one who is using his knowledge to prove a theorem or construct a figure), and infers that "live" also has this ambiguity (since to live is to sense or to know in some way) and that living in the sense of the ἐνέργεια is living in the stricter sense. The ambiguity is in the verbs "see," "sense," "know," "live" or their participles, not in the verb εἶναι; there is no suggestion that all verbs or adjectives have this ambiguity, rather it occurs only in terms whose strict sense is some "ποιεῖν or πάσχειν" (B81; "motion" in B80 is equivalent).⁶¹ Now, however, the mature Aristotle argues that the ambiguity is found in all predicates F, not just predicates in the categories of ποιεῖν and πάσχειν (or in the single category of motion).⁶² And if, as he has argued in Δ7 1017a22-30 against Lycophron and the like, εἶναι is said in as many ways as there are categories of predicates, εἶναι too will have a δύναμις-sense and an ἐνέργεια-sense. And while this shows in the first instance that 2-place εἶναι has these senses, Aristotle will argue that the same ambiguity occurs in locative or existential εἶναι.

Aristotle says:

Being also signifies what is, on the one hand potentially [δυνάμει], on the other hand actually [ἐντελεχείᾳ], [any] of the aforementioned [kinds of being]: for we say that both what sees potentially [δυνάμει, i.e. what has the sense of sight] and what sees actually [ἐντελεχείᾳ] are seeing, and likewise we say that both [what is] capable [δυνάμενον] of exercising [χρησθαι] knowledge [ἐπιστήμη] and [what is] exercising it know, and both that to which rest already belongs and [what is] capable [δυνάμενον] of resting [are] resting. And likewise with substances: for we say that Hermes [or: a herm] is in the stone, and that the half of the line is, and that what is not yet ripe is grain; but when [something like this] is δυνατόν, and when it is not yet [so δυνατόν], we must determine elsewhere [= Θ7]. (Δ7 1017a35-b9)

The burden here is to show that εἶναι, in various contexts, can have the potentiality-sense, since the actuality-sense is the default sense and does not need to be argued for. Aristotle starts from the familiar ambiguity in verbs of cognition, but he brings out that εἶναι can be said in as many ways as these verbs can be said: if there is no difference between "the man cuts" and "the man is cutting" (1017a27-30), then there is no difference between "S is seeing" and "S sees," and so in this case "is" can signify either an actuality or a potentiality. Of course, here εἶναι has a complement of a very special type, but Aristotle tries to extend the claim. In the Protrepticus he had described all cognitive activities as motions (B80), and still in the Metaphysics (in Δ12 and in Θ) he says that δύναμις primarily signifies the ability to move something, and secondarily the ability to be moved by something, but he tries to show that we can say "S is F" in a δύναμις-sense even when "F" does not signify either moving or being moved. The first extension is, naturally enough, from moving to resting: "both that to which rest already belongs and what is capable [δυνάμενον] of resting [are] resting" (1017b5-6); similarly Θ3 will speak of being

⁶¹See discussion in my "The Origins of Aristotle's Concept of Energeia: Energeia and Dunamis," Ancient Philosophy, v.14, Spring 1994, pp.73-114.

⁶²See the same paper for motion as a category. Motion is listed among the categories at Metaphysics Z4 1029b22-25, Iota 2 1054a4-6, and Λ1 1069a19-22. The category of κίνησις also appears at Eudemian Ethics I,8 1217b26-33: but while κίνησις is mentioned singly at b33, κινεῖσθαι and κινεῖν are a pair at b29. Aristotle needs to divide the category of κίνησις into ποιεῖν and πάσχειν, or κινεῖν and κινεῖσθαι, to make sense of the claim that not every agent or mover is ipso facto itself affected or moved.

capable [δυνατόν] of sitting or standing (1047a22-9) alongside being capable of moving or walking. This has the effect of extending the δύναμις-sense to verbs that do not signify ποιεῖν or πάσχειν, or to εἶναι when its complement is the participle of a verb signifying not in the categories of ποιεῖν or πάσχειν (or the category of κίνησις) but in the category of κεῖσθαι, "position." But surely it is a mere grammatical accident that in "S is sitting" the predicate is expressed by a participle while in "S is upright [ὀρθός]" it is expressed by an adjective. If we can say "S is sitting" in the δύναμις-sense, we should also be able to say "S is upright" in the δύναμις-sense; and, if so, we should also be able to say "S is white" or "S is F" in general in the δύναμις-sense, where F is in the category of quality, or indeed in any other category of accidents. But Δ7 skips these intermediate stages, saying immediately "and likewise with substances" (1017b6), because, for the larger purposes of the Metaphysics, substances rather than qualities or quantities are the most important extended cases of being in the δύναμις-sense. (So likewise in Θ6, where Aristotle is describing an analogical extension of the terms "ἐνέργεια" and "δύναμις" from the linguistically primary senses in which "ἐνέργεια" signifies a motion and "δύναμις" signifies a power to move or be moved, he says of the various analogous pairs of terms "some are said as κίνησις to δύναμις, others as substance to some matter," 1048b8-9, ignoring cases where the ἐνέργεια-term might be a quality or quantity. Here too Aristotle is describing an analogical extension across the categories, and "κίνησις" should be taken as the name of a category.)⁶³

Aristotle gives three examples for being δυνάμει in the category of substance, the statue of Hermes, the half-line, and the grain (these are all assumed for the sake of the argument to be substances, whether they really are or not). The example of the grain is grammatically analogous to the non-substance cases, "S is F" where in this case F is a predicate in the category of substance (and this is a case where we would indeed plausibly say, pointing to it, that it is grain, rather than olives or figs), whereas the example of the half-line is existential, and the example of the statue is locative, or perhaps locative-existential "there is in the stone a herm." Aristotle seems not to feel that the shift from a δύναμις-sense of predicative εἶναι to a δύναμις-sense of existential or locative εἶναι is a major transition (if he did, he would surely have listed the predicative example of the grain first, where it would be continuous with seeing and knowing and resting, and only then made the transition to the existential and locative examples). Rather, the transitions where the reader might need some persuasion are from the category of κίνησις (or ποιεῖν and πάσχειν) to other accidental categories and then to substance; once the point has been made that εἶναι can have the δύναμις-sense even in the category of substance, Aristotle seems unworried about passing back and forth between sentences of different grammatical forms. The example of the half-line could easily have been locative ("the half is present in the line"), and the example of the statue could have been purely existential ("the statue is said to exist, because it is potentially present in the stone"). The grain example too could have been locative-existential or locative ("on the stalk there is grain," "grain is on the stalk") or even purely existential ("there is grain," with an implied locative restriction "in these fields"). Indeed, the non-substance examples too could have been put in existential or locative forms ("there is knowledge in this soul" etc.). In all of these cases the implicit inference is between "S is F" (or paronymously "S is F*") and "F exists" or "F is in S" (or "F belongs to S" etc.)--never between "S is F" and "S exists." We have seen this equivalence already in discussing the senses of being corresponding to the categories, but it has a particular implication for being δυνάμει. Bucephalus is moving, in the δύναμις-sense, because he has a δύναμις to move; we could also say that

⁶³See again the same paper.

Bucephalus' motion exists (or that motion is in Bucephalus), in the δύναμις-sense, again because Bucephalus has a δύναμις to move--not because Bucephalus' motion possesses some δύναμις, but because he does. Likewise, we can say that the line is bisected, in the δύναμις-sense, because the line has a passive δύναμις to be so divided, or that what is not yet ripe is grain, in the δύναμις-sense, because it has a nature whose natural motion will be to ripen into grain, and so we can also say that the half-line and the grain exist (or are present in the line or on the stalk) in the δύναμις-sense, not because they themselves possess some δύναμις but because the line or the plant does. If something does not yet actually exist, then it does not possess any δύναμις, whether a δύναμις for existing or for anything else; rather, on Aristotle's analysis, if F does not yet actually exist, then it "exists," in the weak sense in which it does exist, only because something has a passive δύναμις to become F (or to become the paronymous F*, e.g. to become white, not to become whiteness) and because something has the active δύναμις to produce F or make something F (or make something F*, e.g. make something white).⁶⁴ (Presumably the not-yet-actually-existing F also has being-as-truth, but this is much less interesting for the causal investigation.) To put it another way, if F is not-yet-actually-existing, statements apparently about F, including "F can exist," need to be reanalyzed so that F is no longer in subject position ("S can become F, T can produce F"); which is what Aristotle does in Physics I,7-8, where "F comes-to-be" is rewritten as "S comes-to-be F" in order to answer Eleatic aporiai and to analyze the preconditions of coming-to-be (and so to discover the ἀρχαί of natural things). In reanalyzing statements about a not-yet-actually-existing F so that F is no longer in subject position, Aristotle contrasts most clearly with the fifth Hypothesis of the Parmenides, where a one which is not can be the subject of a whole series of predicates, sufficient to distinguish it from other non-existent things, and can even be the subject of one kind of motion, namely coming-to-be; a view which Aristotle attacks as a mistaken "giving in" to Parmenides' argument that if anything comes-to-be, it comes-to-be from not-being.⁶⁵

So we can say that for Aristotle, by contrast with Plato in the fifth Hypothesis of the Parmenides, the "existence" of not-yet-actually-existing things is parasitic on the existence of actual things, namely actually existing passive and active δυνάμεις and the actually existing substances which are their bearers. But it may be more illuminating, and more Aristotelian, to put the point in terms of causality. If something is in the δύναμις-sense, then what causes it to be

⁶⁴Thomas is thus un-Aristotelian when he says that the essence of F is related to the existence of F as potency to act. Later scholastics correctly restate the Aristotelian position against Thomas, in scholastic terminology, by saying that a non-existing F has not a subjective potency but an objective potency to exist: where a subjective potency of F is a power (either active or passive) that F has for something, and an objective potency is a power that something else has to produce or become F, such a potency denominating F extrinsically (i.e. the verb potest holds of F because of a potentia inhering in something else, as "healthy" holds of a diet because of a health inhering in something else, the animal for which the diet is healthy). This difference between Thomas and Aristotle is connected with a difference about the causality of the first ἀρχή (call it God): Aristotle and Thomas agree that God is pure ἐνέργεια/actus, and is the cause to many or all other things of their (1-place) being-as-ἐνέργεια/actus. But for Aristotle God causes F to exist by actualizing the potentiality which the matter of F has to become F, while for Thomas God actualizes the potentiality which the essence of F has to exist. Thomas finds the authentic Aristotelian position unacceptable because it cannot explain how God would cause the existence of the subordinate heavenly movers, of the heavenly spheres themselves, or of the prime matter of sublunar things, none of which have a further matter prior to them; and indeed Aristotle seems not to believe that God does cause the existence of these things. Note also that for Aristotle God causes the existence of sublunar things only indirectly, by causing the motions of the heavenly bodies which in turn cause regular sublunar changes and the perpetuation of sublunar species, while Thomas thinks that God must be an immediate cause of the existence of each thing other than himself.

⁶⁵On giving into Parmenides, see Physics I,9 191b36-a2; Aristotle apparently refers to the fifth Hypothesis on what can and cannot be attributed to not-beings at Metaphysics Θ3 1047a32-b1.

in this sense is a δύναμις or the bearer of a δύναμις--and equally so whether the effect is 2-place being (S is F, in the δύναμις-sense) or 1-place being (F is, in the δύναμις-sense). Thus Physics II,3, which as we have seen distinguishes δυνάμεις and their bearers ("δυνάμενα" causes, 194b4-5) from ἐνεργούντα causes, says that for each effect we must assign a cause of the appropriate kind, "δυνάμεις for possible [δυνατά] things, and ἐνεργούντα [causes] for ἐνεργούμενα things" (195b27-8): the causes of a possible house are an active δύναμις for producing a house, i.e. the art of housebuilding, present in some housebuilder, and a passive δύναμις for becoming a house, present in some materials on which the art of housebuilding can act. And this helps to solve a puzzle that we had raised before about Metaphysics Θ: given that Θ starts by announcing a study of being in the actuality and potentiality senses, why does it then immediately switch to an extended discussion of δυνάμεις as (in a broad sense) ἀρχαί, taking up the latter part of Θ1 and all of Θ2 and Θ5, and how is this discussion related to what he does eventually say about being as potentiality and as actuality? The connection is that the causes of being-δυνάμει are δυνάμεις. And, conversely, Aristotle maintains that δυνάμεις are sufficient to explain only why something is possible: to explain why F actually exists (why some matter has the form of F, why some body has the motion F, etc.) we need to cite an activity [ἐνέργεια] or its bearer, an ἐνεργούν cause.

This connection between δυνάμεις and being δυνάμει has important implications, worked out in Θ8 and then Λ6, for the investigation of the first ἀρχή. If we conclude, say, with Anaxagoras, that the first causes of all things, existing prior to the cosmos, are a νοῦς which potentially produces circular motion and thus cosmic order but is actually doing nothing, and a collection of material ἀρχαί which potentially function as parts of animals and the like but are actually doing nothing, then there will be no sufficient reason for there to be an actual circular motion, actual cosmic order, actual animals and so on. If there is to be a sufficient reason for these things' actually existing, there must be an ἐνεργούν cause prior to the potential causes, in order to make them actual causes, and so the potential causes will not really be the first causes. As Λ6 says, if δύναμις is prior to ἐνέργεια, i.e. if the first ἀρχαί are δυνάμεις or δυνάμενα causes (see 1071b22-4), "then none of the things-that-are will be: for it is possible [for something] to be able to be but not yet to be [ἐνδέχεται γὰρ δύνασθαι μὲν εἶναι μὴπω δ' εἶναι]" (1071b24-6). This passage makes it clear that δυνάμεις or δυνάμενα causes explain why things are possible, why they δύναται εἶναι, but are not sufficient to explain why they are actually existent rather than not-yet-existent or never-to-be-existent; and it also makes clear that a thing δύναται εἶναι, not on account of any δύναμις that it has, but on account of the δυνάμεις that its causes have.⁶⁶ Aristotle does not really mean that if the ἀρχαί were δυνάμεις or δύναμις-possessors, "none of the things-that-are will be," since the ἀρχαί themselves will exist (he is not refuting the view that the ἀρχαί are merely potentially existing, a view no one had held, but rather the view that they are merely potentially acting and so merely potential causes): but the claim is that such ἀρχαί would contain no sufficient reason for anything beyond the ἀρχαί themselves to exist, and therefore that nothing beyond the ἀρχαί themselves will in fact exist. If Anaxagoras or other pre-Socratics (or the Plato of the Timaeus) argue that the ἀρχαί, as whatever existed before the ordered world came to be, cannot already have been actual causes, since if they were they would already have produced a world, Aristotle will simply accept the conclusion that the ἀρχαί have always been acting in such a way as to produce a world, and therefore that the world has existed

⁶⁶Similarly a few lines above, 1071b17-19, "nor [will it be sufficient] even if [the ἀρχή] acts [ἐνεργήσσει], but its οὐσία is δύναμις, for motion will not be eternal: for it is possible for what is in potentiality not to be [ἐνδέχεται τὸ δυνάμει ὄν μὴ εἶναι]."

from eternity, and that the ἀρχαί are not temporally prior to the world, but prior only in some more abstract causal sense.

This strategy of argument (which I am presenting in the most barebones form, disregarding the objections and distinctions and supporting arguments developed especially in Θ8)⁶⁷ is by now all too familiar. My main point, however, is that no one before Aristotle had drawn a connection between δυνάμεις and being δυνάμει, or said that δυνάμεις and their bearers are insufficient to explain the actual existence of their effects. The only extended discussion of the status of not-yet-existent objects that we know of before Aristotle, the fifth Hypothesis of the Parmenides, does not use the concept of δύνάμις, and does not analyze the causes of the quasi-existence of such objects, or how they differ from the causes which are sufficient for actual existence. Certainly Parmenides supported his claim that what is cannot have come-to-be from what is not by arguing that there would not be a sufficient cause ("what need would stir it up to arise [φῶν] later or sooner, if it started [ἀρξάμενον] from nothing?", B8, lines 9-10), and it is likely that Leucippus and Democritus had extended this strategy to refute Anaxagoras by arguing that there would be no sufficient reason for νοῦς to begin the vortical motion at one time rather than another. But it is a long way from this sort of starting-point to the general concepts of potential and actual causes and the senses of being that they explain, and thus to Aristotle's conclusions about the priority of ἐνέργεια. What Aristotle does here is an illustration of a basic claim that he is making in the Metaphysics, namely that reflection on different senses of being will help us in resolving disputes about the ἀρχαί--not because we are looking for what is in the most paradigmatic sense, but because we are looking for the ἀρχαί as causes of being. Different senses of being will lead us in different directions to discover their appropriate causes: being per accidens and being as truth lead nowhere; being as οὐσία leads to the "cause of being" to F (Δ8 1017b15, discussed above) or "cause of οὐσία" to F (A6 987b24-5, A7 988b12-13) which is the οὐσία of F, the answer to "τί ἐστι F?"; being as potentiality and actuality leads to potential or actual material and efficient causes, active and passive δυνάμεις and their bearers and their exercises. This, it seems to me, is the sense in which Δ7 is distinguishing four main senses of being (rather than, say, a matrix of 10×2× ... senses of being) which lead to four different investigations. Metaphysics E concludes, negatively, that being per accidens and being as truth do not lead to causes which are the objects of any science; Z concludes, negatively, that while being as οὐσία leads to real causes which are the objects of real sciences, these causes are not the eternal ἀρχαί which are objects of wisdom; Θ concludes, negatively, that the causes of being as potentiality are not the first ἀρχαί, but also, positively, that ἐνέργεια is prior to δύνάμις, so that the ἀρχαί are ἐνέργεια and might be found as causes of being in actuality, and Λ6-10 elaborates how this is supposed to work. The main result is supposed to be that the path to something like Platonic Forms, as formal causes of being-as-οὐσία, does not lead to the desired ἀρχαί, while the path to something like the νοῦς of Anaxagoras, the Love and Strife of Empedocles, or the demiurge of the Timaeus, does succeed if refined and reanalyzed as a path to efficient causes of being-as-actuality. But this refinement has important revisionist consequences not just for the nature of the ἀρχή itself as pure ἐνέργεια, but for its mode of acting on the world: there can be only one of it and not a pair of contraries, and it must be acting always and in the same way for all eternity, so that the ordered cosmos must also be eternal; and because it has no δύνάμις and so cannot be moved, it can act to produce the motion of the heavens and so cosmic order only in the very peculiar way analyzed in Λ6-10.

⁶⁷On which see my article in the forthcoming Symposium Aristotelicum volume on B, and at much greater length Part III of The Aim and the Argument.

Appendix: Arguments that Aristotle did not intend Δ as part of the Metaphysics

Most people who write about the Metaphysics 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 might get sent to Ross or Jaeger, but these authors will mostly send you back to Bonitz, who does not say that much either. The only attempts at systematic argument I have found are Bonitz II,18-20, and Jaeger Entstehungsgeschichte pp.118-21; Ross has some very quick remarks at I,xxv. In The Aim and the Argument Iy1b I collect these arguments and reply to each of them. Here is a quick checklist, in case anyone wants either to discuss one of these arguments or to add a new one:

From Bonitz: (i) Against Alexander, $\Gamma 2$ 1004a28-31 isn't promising Δ , which merely distinguishes uses of terms and does not talk about the concepts themselves or bring out "what is the proper and primary concept of each of the terms." Answer: see above in the main body of this paper. Alexander is right about $\Gamma 2$ 1004a28-31, and Bonitz is wrong about what Δ does not do.

(ii) This sort of preliminary discussion of the uses of terms should have been prefixed to the whole Metaphysics, rather than interrupting the argument in the middle. Answer: see above in the main body of this paper. Δ does not interrupt the argument of the Metaphysics. $AB\Gamma$ are preliminaries; Γ says that we need to investigate the causes, ἀρχαί and στοιχεῖα of being and of its per se attributes, and that to do this we must distinguish the many senses of each of these terms. Δ does so, and then Aristotle investigates the causes of being (EZHΘ) and of its per se attributes (Iota), using the distinctions drawn in Δ .

(iii) There is no parallel to Δ in K, which contains parallels to $B\Gamma E$ in sequence. Answer: true but unsurprising. Δ has a different status from the other books of the Metaphysics, in that it was always a written reference-text like the Selection of Contraries or the Historia Animalium, whereas the other books, like most of Aristotle's preserved work, began as lectures or as texts for lecture-presentation. The status of K is at least as controversial as the status of Δ , but in my view K1-K8 1065a26 are a student's reworking (for his own lectures) of his notes from lectures Aristotle gave corresponding to $B\Gamma E$; there is no section corresponding to Δ because there were no lectures corresponding to Δ . None of this implies that Aristotle did not intend Δ as part of the Metaphysics: the Metaphysics, like other Aristotelian treatises, was always intended to be a written text as well as a lecture-course, and Δ was intended to be part of that written text.

(iv) Δ leaves out some important metaphysical terms (Bonitz mentions εἶδος, ὕλη, ὄρος, τί ἐστι, ἐνέργεια) and includes other terms of no great metaphysical interest (he mentions κολοβός, διάθεσις, ἔχειν). Answer: as I said in the main body of this paper, "I am not suggesting that none of [Δ 's] chapters could have been omitted, or that others could not have been usefully added." But while the terms on Bonitz' first list are all conceptually important, and in some cases have important ambiguities (most obviously it would have been nice if Aristotle had explained how εἶδος as form and εἶδος as species are related), these are not distinctions that he will explicitly draw later in the Metaphysics, e.g. in resolving some difficulty which arises from not distinguishing them, and which he would want to have prepared in Δ . (An exception is the distinction between sensible and intelligible matter, which he does in fact draw under $\Delta 24$, ἐκτινος.) Some terms seem to have been included because they are closely connected with some other term of greater interest, or are parts of series of terms that Aristotle wants to treat together. It is obvious from reading $\Delta 19-20$ together that διάθεσις is there as part of a package with ἔξις (the chapter division here is misleading); if we read these chapters with $\Delta 21$ too it seems that Aristotle wants to go through all the main species of quality, as in the Categories (he seems also

to be interested in the relation between dispositional qualities and their ἐνέργεια). Δ27 on κολοβόν is an (overgrown) appendix to Δ26 on ὄλον (note the δέ-connection at 1024a11). Δ23 on ἔχειν and the correlative concept of ἐν τινι may have been included because Aristotle wants to distinguish the ways in which the bronze has the form of the statue (1023a12-13), the whole has the parts (a16-17), and the συνέχον has the things it συνέχει (a22); this connects with Δ24, where the statue is ἐκ the bronze and the parts are ἐκ the whole. For those who like such things, note Aristotle Symposium Fr. 2 Ross, οὐδὲν κολοβόν προσφέρομεν πρὸς τοὺς θεοὺς ἀλλὰ τέλεια καὶ ὅλα.

(v) There is no "certa lex" either of the selection or of the ordering of terms in Δ, and Aristotle has more subtle accounts of particular terms in the Metaphysics and Physics. Answer: true. At least through Δ12 there are very good reasons for Aristotle to discuss all of these terms, and tolerable reasons for the order; it becomes less clear after that, and there is certainly no overall scheme that generates the whole list, although several of the terms Aristotle discusses in these later chapters will be very important for the later argument of the Metaphysics, and there are clearly some clusters of terms that go together, sometimes in a determinate logical order (thus Δ27 presupposes Δ26 which presupposes Δ25). If you are looking for Hegel's Logic, you will be disappointed. Of course what Aristotle says about οὐσία in Z is more subtle than what he says in Δ8, but that is a much longer discussion, and it builds on Δ8.

Jaeger adds: (vi) Δ interrupts what would otherwise be the connected resolution of the first four aporiai of B in ΓΕ. Looking back to Entstehungsgeschichte pp.91-2 shows that what Jaeger means is that the third aporia of B (is there a single science of all substances?) is resolved in E1, which says that physics treats changeable substances, first philosophy unchangeable substances. Answer: there is no such continuity between Γ and E. The distinction between the different domains of substance treated by different philosophical sciences was drawn already at Γ2 1004a2-9 (and see also Γ3 1005a33-b2). If E1 addresses any aporia from B, it is the fifth, whether there are substances beyond the sensibles, such as Forms or mathematical. But E is not by itself sufficient to answer the aporia: to find the answer, we must start with sensible substances and investigate their different causes, to see if some causal chain leads up to separately existing unchanging things. (We may also have to investigate e.g. whether the truth of mathematical theorems requires the separate existence of their objects.) To give a full, well-grounded answer will take the rest of the Metaphysics (and the other aporiai from B beyond the first four--in my view also the first--will be answered en route), and it requires that we first distinguish the different senses of cause, being, unity and so on. That is why Δ is there before E. Jaeger expects Aristotle to give answers without doing the hard work needed to justify them.

(vii) The ancient catalogues of Aristotle's works report a περὶ τῶν ποσάχως λεγομένων ἢ κατὰ πρόσθεσιν A which is presumably Metaphysics Δ (with περὶ τῶν ποσάχως λεγομένων a jumbling of περὶ τῶν πολλάχως λεγομένων with περὶ τοῦ ποσάχως). So Δ was an independent work. Answer: the catalogues also give us e.g. a περὶ αἵρετοῦ καὶ συμβαίνοντος A which is presumably Topics II-III or just III, and a περὶ τοῦ μὴ γεννᾶν A which is presumably Historia Animalium X. Nobody is going to conclude that these were not intended as part of the larger collections. Some Peripatetics chopped the Aristotelian corpus into larger and others into smaller units (and Aristotle himself, in his references to his own work, cheerfully does both), without affecting the logical sequence of the texts. (E.g. is it an 8-book Physics followed by a 4-book De Caelo, a 2-book Generation and Corruption etc., or a 4-book Physics, a 3-book On Motion [with Physics VII as a related 1-book On Motion], a 4-book De Caelo etc.; or a single gigantic Physics going up through the Meteorology or even through the zoological works?) The most we can infer

from the catalogues is that people sometimes copied Δ separately, and it is hardly surprising that someone would do so.

(viii) Aristotle in later books of the Metaphysics refers to Δ with phrases like εἶρηται ἐν ἄλλοις, although also with εἶρηται πρότερον. This suggests a tension about whether Δ is part of the same treatise as these later books or not, but Jaeger argues that ἐν ἄλλοις trumps πρότερον, that πρότερον does not imply earlier in the same treatise: he assembles a number of places where one physical treatise refers back to a physical treatise earlier in the series by the phrase εἶρηται ἐν ἑτέροις πρότερον. Answer: again, Aristotle in his self-references can chop up his own work as finely or crudely as is convenient on any given occasion; ἐν ἄλλοις or ἐν τοῖς περὶ X is a reference to a unit of text contrasting with the present unit, but the units can be of any scale. Metaphysics 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 εἶρηται λόγοις, 1053b17-18, a form of reference which would have been impossible in Θ). Sophistical Refutations c2 refers to things in the Topics as ἐν ἑτέροις or ἐν ἄλλοις, although the Sophistical Refutations begins with a δέ connecting back to the Topics, and although the last chapter of the Sophistical Refutations summarizes Aristotle's achievement in discovering a method for drawing inferences about any given subject from plausible premisses (183a37-b2), i.e. in the project of the Topics as a whole, with a very close echo of the first sentence of the Topics. De Anima 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 Politics VIII,3 1338a25-30 cites a version of Odyssey XVII,382-5 and then says that Odysseus ἐν ἄλλοις says what he says at Odyssey IX,7-8. All of Jaeger's examples of εἶρηται ἐν ἑτέροις πρότερον are cross-references between different parts of Aristotle's Περὶ φύσεως, whether we think of this as a single treatise or as an ordered series of treatises.

Added by Ross: (ix) While Δ is "a useful preliminary to the Metaphysics ... it is not preliminary to it in particular" (I,xxv). Δ is cited not only in later books of the Metaphysics but also at Physics 191b29 and Generation and Corruption 336b29 (I,xiv). "Some of the notions discussed in it (κολοβόν, ψεῦδος) are not appropriate to the Metaphysics, and it is apparently earlier than the physical works while the rest of the Metaphysics, in its present form, is later" (I,xxv). Answer: as noted in the main body of this paper, Δ contains no ethical and almost no physical terms, its account of the senses of being structures the argument of EZH Θ , it is very closely connected with Iota, and it contains a series of distinctions which will be drawn on at crucial junctures in the later argument of the Metaphysics. The Generation and Corruption reference says "being is better than not-being; it has been said elsewhere in how many ways we speak of being," which could be referring to anything; the Physics reference says "this is one way [of solving Parmenides' aporia about coming-to-be out of being or out of not-being], and another is that the same things can be said in the sense of potentiality and in the sense of actuality; this has been determined with more precision elsewhere," which cannot be referring to Δ 12 and could only with great difficulty be referring to Δ 7 1017a35-b9, which are too short to determine anything with much precision and say nothing about Parmenides' aporia; Θ or Λ are more likely. Even if Aristotle is referring to Δ , why shouldn't he refer to a part of the Metaphysics to clarify a metaphysical concept? Ross' chronology is merely an inference from the fact that the Physics and Generation and Corruption passages refer to Δ (if it is Δ) in the perfect tense (see I,xiv). On κολοβόν see above; on ψεῦδος see Metaphysics E4 and Θ 10.