

The Aim and the Argument of Aristotle's Metaphysics
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Πβ: Z3: the ὑποκείμενον

Πβ1: Aristotle's negative argument

As we have seen, the main body of Z3 examines the method of seeking the ἀρχαί as ὑποκείμενα of the manifest things. That is, it examines the claim of the ὑποκείμενον of a given thing X, first to be the οὐσία of X, and then also to exist prior to X: if it is true in general that the ὑποκείμενον of X exists prior to X, then pursuing the path back from the manifest things to their ὑποκείμενα, and proceeding until we reach an ultimate ὑποκείμενον, will lead us to some ἀρχή or ἀρχαί. Aristotle recommends that we examine the ὑποκείμενον first, since "the first ὑποκείμενον seems most of all to be οὐσία" (Z3 1029a1-2). There are two reasons why this approach should seem most plausible. First, all earlier philosophers except Plato and the Pythagoreans (or Academic Pythagorizers) have sought for the οὐσία of things in this way, as their material rather than formal causes, and they all thought that at least some (and perhaps all) of the ἀρχαί would be found as this kind of οὐσία of the manifest things. Even Plato and the Pythagoreans sometimes conform to this physicists way of seeking ἀρχαί: the Pythagoreans say that the infinite is the material ἀρχή of things, and Plato in several places tries to analyze things back to some material ἀρχή, in the Timaeus the "receptacle of becoming," in the third hypothesis of the Parmenides the nature of the others, and somewhere else (perhaps in the lecture on the good) the indefinite dyad of the large and the small. So the practice of other philosophers makes this an urgent path to examine; but--a second reason--Aristotle's own account of οὐσία and non-οὐσία, of existence καθ' αὐτό and not καθ' αὐτό, also seems to imply that this is the right way to search for ἀρχαί. Aristotle says repeatedly, in the Metaphysics as elsewhere, that an οὐσία is what is not said καθ' ὑποκειμένου ("οὐσία λέγεται τὸ μὴ καθ' ὑποκειμένου", verbatim at Z13 1038b15 and implicit at N1 1087a36-b4); every ἀρχή must be something said not καθ' ὑποκειμένου, since otherwise its ὑποκείμενον would be prior to it (so the N1 passage). These commitments suggest that, in order to find οὐσία, and to find things that might possibly be ἀρχαί, we should look for the ultimate ὑποκείμενα of things, ὑποκείμενα that will no longer be said καθ' ὑποκειμένου: "the ὑποκείμενον is that of which the other things are said, and is not itself said of anything further. Whence let us first determine about it: for the first ὑποκείμενον seems most of all to be οὐσία" (Z3 1028b36-1029a2).

The reasons that threaten to commit Aristotle to saying that οὐσία and ἀρχαί must be ultimate ὑποκείμενα can be put more forcefully using Aristotle's terminology of existence καθ' αὐτό and not καθ' αὐτό from Posterior Analytics I,4 (discussed in Iβ4 above). As he says there, what exists καθ' αὐτό is

what is not said of some other underlying thing [ὃ μὴ καθ' ὑποκειμένου λέγεται ἄλλου τινός]: for example, the walking [thing], being something else, is walking [τὸ βαδίζον ἕτερόν τι ὃν βαδίζον ἐστίν], and likewise the white, but οὐσία, and whatever signifies a this, are not, being something else, what they are [οὐχ ἕτερόν τι ὄντα ἐστίν 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)

As Aristotle is thinking of it here, if X exists καθ' αὐτό, then when something is X its nature is just to be X, and the X-ness is not predicated of some underlying nature; if X exists not καθ' αὐτό, then when something is X it has some other underlying nature of which X is truly predicated, and X exists only because something else exists and is X. This analysis thus seems to identify existing καθ' αὐτό (or, equivalently, existing χωρίς, or being τόδε τι, or being an οὐσία) with not being said of a ὑποκείμενον. Since the ἀρχαί must exist καθ' αὐτάς, this would imply that nothing that is said of a ὑποκείμενον can be an ἀρχή; if X is said of some ὑποκείμενον Y, then X exists only because Y exists and is X, and so Y is prior in existence to X, and so X cannot be an ἀρχή. As we saw in Iβ4 above, this is essentially the argument Aristotle gives at the beginning of Metaphysics N1. But if this is right, then in searching for ἀρχαί it becomes important to ask, of a given manifest object X, whether X is said of some ὑποκείμενον Y or not: if it is, then X cannot itself be an ἀρχή, and we will do better to examine the prior thing Y. This Y will be the οὐσία of X, what it is that is X; repeating this process if necessary until we reach an ultimate ὑποκείμενον, we will find some οὐσία existing καθ' αὐτό, and if this ultimate οὐσία is not an ἀρχή it is because something else is prior to it in some other way (perhaps temporally or as an efficient cause, but not by being more οὐσία).

This is, of course, the account of οὐσία that Aristotle rejects in Z3, in arguing that the pursuit of the ὑποκείμενον does not lead to ἀρχαί or to οὐσίαι prior to the manifest things. The point is not that he is arguing against his own earlier views as expressed in Posterior Analytics I,4 and parallel texts. He is arguing against a common presupposition, implicit or explicit, of most Greek thought about ἀρχαί and οὐσίαι, and his own formulation in the Posterior Analytics is useful because it helps to state the issue more clearly, not because its basic claim about οὐσία is anything distinctive. And Aristotle continues to operate with the Posterior Analytics distinction between existence καθ' αὐτό and not καθ' αὐτό, and to insist that any ἀρχή must be an οὐσία and must exist καθ' αὐτό; this is crucial to many arguments in the Metaphysics. But he thinks that the Posterior Analytics formulation of the relation between existing καθ' αὐτό and being said καθ' ὑποκειμένου--perfectly adequate for its purposes there and in many other contexts--is no longer precise enough for the purposes of seeking οὐσίαι of the manifest things and of examining whether they might be prior to the manifest things, and whether they might be ἀρχαί.

To say that the οὐσία of a thing is its ultimate ὑποκείμενον is not yet to say what οὐσία is (as if we said that οὐσία is air or points), but it gives a description to guide us in investigating what οὐσία is: it gives us a τύπος, a preliminary sketch, of οὐσία.¹ Aristotle comments: "it has now been said τύπω what οὐσία is, that it is what is not [said] of a ὑποκείμενον but of which the other things [are said]; but we must not leave it at this; for this [description] is not sufficient; for, on the one hand, this [description] itself is unclear [ἄδηλον], and, furthermore, matter becomes οὐσία [i.e. on this account, matter would turn out to be οὐσία]" (Z3 1029a7-10). Aristotle is here making two quite different critical comments about this τύπος of οὐσία. The first, namely that it is ἄδηλον, is not really a criticism, but just a reminder that the initial account of οὐσία is not sufficient in itself: to say that it is ἄδηλον is to say that it is only a τύπος and still needs to be filled in, that we need to go on from a true-but-not-clear to a true-and-clear account of what οὐσία is. The second comment, "and, furthermore, matter becomes οὐσία," is a real criticism: it says, not just that the initial account is only a τύπος, but that it is not a good τύπος, because it would lead inquiry in the wrong direction, and lead to the wrong conclusion about what οὐσία is.

¹ cite discussion of τύποι from IIα2.

Aristotle is not exactly saying that this τύπος of οὐσία is false; but it is unclear in such a way as to be misleading, so that even if there is an interpretation on which it comes out true, it is still not a good guide to inquiry. And Aristotle tries to show that the path to the οὐσία as ὑποκείμενον is the wrong path of inquiry, by showing that it leads to the matter and by showing that the matter is not an οὐσία (or, more carefully, that it is less οὐσία than the manifest composite things). If matter cannot be an οὐσία, it certainly cannot be an ἀρχή, and so the path to the ὑποκείμενον fails as a path to the ἀρχαί. This negative conclusion of Z3 will suggest that a more promising way to discover οὐσίαι prior to the manifest things is to pursue the path to οὐσία-as-essence, leading to forms of the manifest things; of course this path does not succeed either, but Aristotle thinks it is not as badly mistaken as the first.

The main issue of Z3 is thus the status of matter, and the core of the chapter is devoted, not to a discussion of ὑποκείμενα as such, but to arguing that the search for the ultimate ὑποκείμενον leads to matter and that the matter is not οὐσία. Aristotle has said, in introducing the notion of ὑποκείμενον, that the matter and the form and the matter-form composite can all be called ὑποκείμενα (1029a2-5), and indeed there are attributes which are most properly predicated of each of these, but the matter will be the first ὑποκείμενον of all of these (the bronze receives the form of a statue and so becomes a statue, as the statue receives whiteness and so becomes white), and so the matter is the ultimate ὑποκείμενον of everything that is predicated of the form (such as the proportions between the different limbs of the statue) or of the composite (such as its weight and color).² So the description of the οὐσία of a thing as its ὑποκείμενον, and of the first οὐσία as the ultimate ὑποκείμενον, would lead to the conclusion that the οὐσία is the matter; and this is what Aristotle will try to refute.

This is, however, a rather misleading way of stating Aristotle's task in Z3. Aristotle does not in fact spend much time in Z3 arguing for the conclusion "matter is not properly an οὐσία [does not exist χωρίς, καθ' αὐτό, as τόδε τι, etc.], and therefore cannot be an ἀρχή," which he seems to regard as almost self-evident: when he states this conclusion at 1029a27-8, it is almost without argument, and one of the problems for the interpreter is to discover what background assumptions Aristotle has that make this conclusion so evident to him. The main burden of Aristotle's argument, as he sees it, is to show that "to those who investigate in this way [sc. by seeking the οὐσία of a thing as its ὑποκείμενον], necessarily the matter alone will seem to be οὐσία" (1029a18-19), in the particular technical sense of "matter" that Aristotle intends. He thinks it will be evident that matter, in this sense, cannot be οὐσία (or that it cannot be οὐσία in any strong sense); so if he can show that only matter, in this sense, emerges as the ultimate ὑποκείμενον, his case will have been made.

When we examine the details of Aristotle's argument here, it becomes obvious that his intended target--"those who investigate in this way"--is Plato, or Plato and Academic Pythagorizers. Aristotle is describing a process of "investigating" the ultimate ὑποκείμενον by stripping more and more predicates away, and he is arguing that at the end of this process nothing is left except "matter" in the relevant technical sense. The process that Aristotle describes is recognizably something that Plato does, in the Timaeus and in a somewhat different form in the Parmenides, and it is also something that Aristotle describes elsewhere in passages obviously referring to Plato or the Academics. And Aristotle's criticisms are indeed quite serious criticisms to make of what Plato is doing.

Aristotle writes:

²I will come back to this below

For if [matter] is not [sc. for those who seek the οὐσία as the ultimate ὑποκείμενον] οὐσία, it escapes us [διαφεύγει] what else would be; for when the other things are stripped off nothing [else] seems to remain [ὑπομένειν]. For the other things are affections and actions and powers of bodies; and length and breadth and depth are quantities [ποσότητες] and not οὐσία (for the so-much [ποσόν] is not οὐσία)--rather, the primary thing these belong to [ᾧ ὑπάρχει ταῦτα πρώτῳ] is οὐσία. But when length and breadth and depth are stripped away we do not see anything left over, unless what is determined [ὀριζόμενον] by these is something: so that to those who investigate in this way, necessarily the matter alone will seem to be οὐσία. By matter I mean what is not said per se to be something [τι] nor so-much [ποσόν] nor any of the other [predicates] by which being is determined [ὀρισταί]. For there is something of which each of these is predicated, and being-for-it is different from [being-for-] each of the predicates [ᾧ τὸ εἶναι ἕτερον καὶ τῶν κατηγοριῶν ἐκάστη] (for the other [predicates] are predicated of the οὐσία, and it of the matter), so that the last thing is not per se either something [τι] or so-much [ποσόν] or anything else: not even the negations, for these too will belong [to it] per accidens. So from these [considerations] it results for those who investigate [sc. in this way] that the matter is οὐσία. But it cannot be: for both "separate" [χωριστόν] and "a this" [τόδε τι] seem to belong especially [μάλιστα] to οὐσία [sc. and they obviously cannot belong to matter as here described]; so that for this reason the form and the composite would seem to be οὐσία more/rather [μᾶλλον] than the matter. (1029a10-30)

Aristotle is here describing a procedure of stripping off accidental predicates to isolate the true οὐσία of things. This procedure is followed by "those who investigate in this way," i.e. by those who seek a non-manifest ὑποκείμενον as the οὐσία of the manifest things, and they use it to exclude illegitimate descriptions of this ἀρχή, or inadequate candidates to be the ultimate ὑποκείμενον of things. But Aristotle argues that this procedure in fact excludes everything but matter, in his intended technical sense, from being the ultimate ὑποκείμενον; and he argues that matter, in the intended sense, cannot be an οὐσία.

It is important to see that this stripping-off procedure does not treat all predicates equally. Aristotle is not simply saying that, if you insist on denying all predicates of the underlying οὐσία, you will have nothing left; he is making a more sophisticated comment about a more sophisticated procedure. The stripping-off is progressive, with more obviously inessential attributes eliminated first, and attributes closer to the core retained longer: and it is quantitative attributes, length and breadth and depth, that are closest to the core. It is argued first that "the other things are affections and actions and powers of bodies," and therefore that none of these "other things" can be the οὐσία of the manifest things: the οὐσία must be either body [σῶμα] or some further underlying οὐσία of body. "Body," σῶμα, is a geometrical notion: the word applies both to natural or artificial bodies and to purely mathematical bodies, and natural bodies do not differ from mathematical bodies in their being σῶματα, but only in the "affections and actions and powers" that we have stripped away. Thus to call something a body is to say that it has length and breadth and depth; but Aristotle then argues that these too cannot be the οὐσία, and that the ultimate ὑποκείμενον must be rather "the primary thing these belong to," which is not per se of any particular quantity but becomes quantified in particular circumstances, just as it is

not per se of any particular color but becomes white or black in particular circumstances.³ Aristotle will then argue that this ultimate ὑποκείμενον is matter, in the sense of "what is not said per se to be something nor so-much nor any of the other [predicates] by which being is determined," and that, if so, it cannot be an οὐσία, and therefore not the οὐσία of the manifest things.

There are some partially parallel texts which help to bring out the special role of quantity, and help explain why Aristotle is arguing in this way. One striking and important parallel is in the twelfth aporia of Metaphysics B, which goes parallel to the Z3 text until it reaches three-dimensional continuous quantity, and then diverges:

The next aporia is whether numbers and bodies [σώματα = mathematical solids] and surfaces and points are οὐσίαι or not: for if they are not, it escapes us [διαφεύγει] what is being and what are the οὐσίαι of beings. For affections and motions and relations and dispositions and proportions do not seem to signify the οὐσία of anything (for all these are said καθ' ὑποκειμένου τινός, and none of them is τόδε τι). And as for the things that would most seem to signify οὐσία, water and earth and fire and air, out of which composite bodies are compounded, heat and cold and the like are affections of these, not οὐσίαι, and only the body that is the subject of these affections [τὸ σῶμα τὸ ταῦτα πεπονθός] remains [ὑπομένει] as being a being and an οὐσία. But body [σῶμα] again is less οὐσία than the surface, and this than the line, and this than the unit and the point; for body is determined/bounded [ὄρισταί] by these, and it seems possible for them to exist without body, but it is impossible for body to exist without them. For this reason the majority, and the earlier [thinkers], thought that οὐσία and being were body, and that the other things were affections of this, so that the ἀρχαί of bodies would be ἀρχαί of [all] beings; whereas the more recent, and those who have seemed to be wiser, thought that numbers [were the οὐσίαι]. So as we have said, if these [numbers and the like] are not οὐσίαι, then nothing at all is οὐσία or being: for the accidents of these are not worth calling beings [Aristotle then gives arguments that mathematical boundaries are not οὐσίαι] so that if body [rather than heat and the like, or fire and the like] is most of all οὐσία, and these things [mathematical boundaries] are more οὐσία than it is, and not even these are οὐσίαι, then it escapes us [διαφεύγει] what is being and what is the οὐσία of beings. (B5 1001b26-1002a14, 1002a26-8)⁴

The arguments of B#12 and of Z3 are very close in structure and vocabulary: the Z3 passage says that if matter is not οὐσία then it διαφεύγει what οὐσία is, since nothing else ὑπομένει as a possible οὐσία, and yet that matter cannot be οὐσία; the B#12 passage says that if boundaries (and ultimately numbers and units) are not οὐσία then it διαφεύγει what οὐσία is, since nothing else ὑπομένει as a possible οὐσία, and yet that boundaries (and numbers and units) cannot be

³Aristotle is not saying--what would be absurd--that the ultimate subject of all predicates has no predicates; he is saying that it has none of these predicates per se. actually, I think he means it has none of them per se primo modo, though in any given case it will have some of them per se secundo modo--give some discussion, here or wherever. note Platonic strategy, in Timaeus and Parmenides, of abstracting back to what the ὑποκείμενον was before (logically or temporally) it came to participate in the forms. even now that it does participate, it is still none of these things καθ' αὐτό: what it is καθ' αὐτό is just what it always was

⁴refer back to earlier discussion in Iβ3

οὐσία. The recurrence of the words διαφεύγει and ὑπομένει is too close for coincidence: the two texts are meant to present variations on a single argument-form. Furthermore, both texts, after they have taken the manifest things and stripped away their "affections and actions and powers" (Z3) or "affections and motions and relations and dispositions and proportions" (B#12), arrive not at particular kinds of bodies, such as the "simple bodies" fire and earth, but rather at body-as-such: the claim (explicit in B#12 but also implicit in Z3) is that in seeking the ὑποκείμενον of (say) fire, when we eliminate heat and dryness and so on, and ask what it is that these are predicated of, we have eliminated everything that differentiates fire from earth or the other kinds of body, and are left only with "body" as common to all of them, that is, the three-dimensionally extended.⁵ At this point, however, the arguments of B#12 and Z3 diverge: Z3 goes on to argue that (on the assumption that οὐσία is the ultimate ὑποκείμενον) what is most οὐσία is not three-dimensional quantities but the intrinsically indeterminate ὑποκείμενον of these quantities; B#12 argues that (by Plato's test) what is most οὐσία is not three-dimensional quantities but the two- or one- or zero-dimensional boundaries of these quantities.⁶

The reason why Aristotle pursues these two diverging paths toward the ἀρχαί is that the Timaeus follows both of these paths, and it is important for Aristotle to examine them both. Aristotle alludes verbally to the Timaeus in Z3 and B#12 when he says that it διαφεύγει what else (except matter, or except the mathematical) could be the οὐσία of things, since nothing else ὑπομένει: the Timaeus says that fire or water should not be called τόδε or τοῦτο, since "it escapes and does not wait around [φεύγει οὐχ ὑπομένον--like a defendant who flees rather than awaiting trial] for 'τόδε' and 'τοῦτο' or any other expression that would indicate that these things are stable" (49e2-4). B#12 is following the Timaeus' path from bodies to their bounding surfaces, and to the triangles as elements of plane surfaces.⁷ Z3, instead, investigates what it is contained by these surfaces, and asks what it is in itself, before it is limited to some particular size and shape, and before it is specified as earth or water or air or fire: that is, Z3 follows the Timaeus' path to the receptacle. As Aristotle complains elsewhere, the Timaeus does not make clear how the receptacle and the triangles are related: "having said that there is a ὑποκείμενον prior to the so-called elements, like gold to gold products, [the Timaeus] makes no use of it ... instead it analyzes the elements, as solids, down to surfaces; but it is impossible for the nurse and first matter to be [the same as] the surfaces" (GC II,1 329a15-17, 21-4). But even if the execution is wanting, the Timaeus does announce a program of discerning a material ἀρχή, the receptacle, prior to the manifest bodies, and it makes the claim that this ἀρχή will be the οὐσία of bodies (the answer to a τί ἐστὶ question about them) because it is their ultimate ὑποκείμενον: and this is just the sort of claim that Aristotle wants to examine for the purposes of Z3. The Timaeus

⁵This step of abstracting or stripping, revealing body-as-such as the underlying οὐσία prior to the particular kinds of bodies, characterizes the "moderns" as against the "ancient" physicists in Metaphysics Λ1: "the ancients [posited as ἀρχαί and οὐσίαι] particular things [τὰ καθ' ἑκάστα], like fire and earth, not body, which is common [to all these] [ἀλλ' οὐ τὸ κοινὸν σῶμα]" (1069a28-30). These "moderns" are especially Plato and Pythagorizing Academics, but it quite correct, not just an Academic oddity, to seek a common ὑποκείμενον beneath the differences of bodies, and it is natural to describe this mathematically: Aristotle says elsewhere that "[for] Democritus ... τὸ κοινὸν σῶμα is the ἀρχή of all things," Physics III,4 203a33-b1.

⁶note on the occurrences of ὀρίζεσθαι in both texts, in B#12 going to what logically-determines/physically-bounds a body, in Z3 to what is determined (is the ὑποκείμενον/is physically contained within a measure) by a length and a breadth and a depth

⁷"fire and earth and water and air are bodies ... and every kind of body also has depth; and depth is always necessarily circumscribed by surface, and the plane base-surface is constituted out of triangles," Timaeus 53c4-8, and so on

passage is especially useful for Aristotle's purposes, because it shows the logical consequences of pursuing the οὐσία of things as their ultimate ὑποκείμενον. The method of "stripping" is genuinely useful if we want to see what this ultimate ὑποκείμενον is, and Plato's arguments correctly show, both that three-dimensional quantity is closer to being the ultimate ὑποκείμενον than its "affections and actions and powers" are, and that the first matter is something yet more basic, prior to any determinate quantity. But just by clarifying the nature of this first matter, Plato's arguments also show (against Plato's intention) that this matter cannot be οὐσία, and therefore that there is something wrong with the assumption that the ὑποκείμενον of anything is its οὐσία, and that the ultimate ὑποκείμενον is μάλιστα οὐσία.

Z3 does not say as clearly as we might like how much Aristotle himself accepts or rejects of Plato's account of the ultimate ὑποκείμενον: the text just follows through Plato's line of reasoning and then says that such an ultimate ὑποκείμενον as Plato describes could not be οὐσία. Fortunately, Aristotle makes his own attitude to the Timaeus account much clearer in On Generation and Corruption II,1, and this will help to interpret what he is doing in Z3. In the Generation and Corruption passage Aristotle is discussing different views of the material ἀρχή: some philosophers say that it is one, "being a body and separate," either one of the four usual "simple bodies" or some other (like Anaximander's ἄπειρον), while other philosophers think there are several material ἀρχαί, like the four simple bodies for Empedocles. But

the way it is written in the Timaeus is imprecise: for he does not say clearly whether the "all-recipient" [Timaeus 51a7] is separated from the elements. Nor does he make any use of it, after having said that there is a ὑποκείμενον prior to the so-called elements, like gold to gold products. But even this is not said rightly when it is said in this form [τοῦτον τὸν τρόπον λεγόμενον];⁸ rather, 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. Notwithstanding, he says that "by far the truest is to say that each of these is gold" [Timaeus 50b1-2, slightly misquoted]. Nonetheless, he analyzes the elements, since they are solids, down to surfaces; but it is impossible for the "nurse" [Timaeus 49a6] and first matter to be [the same as] the surfaces. We, however, say that there is a matter of sensible bodies, out of which the so-called elements come-to-be, but that this is not separate but always always accompanied by a contrariety [ἀεὶ μετ' ἐναντιώσεως, i.e. always either hot or cold, either moist or dry]. (GC II,1 329a13-27)

The way Aristotle sets out his position here in comparison with Plato's is interesting and perhaps a bit surprising. He does not deny the existence of the receptacle; what he denies is that the receptacle or first or prime matter of generable things is separate,⁹ and also that it is the answer to the τί ἐστὶ question when asked of fire and the like, i.e. that fire or earth "can be called [by the name of] that from which they came-to-be." There is a close connection between denying that the receptacle is separate and denying that it gives the τί ἐστὶ of fire or earth: if the matter exists separately, then to predicate the matter of something (like saying of this gold triangle that is

⁸I take τρόπος to be technical: "when the word is predicated of them in this form, sc. 'gold' rather than 'golden'": see below

⁹so too a few lines further down, we must posit ἀρχὴν καὶ πρώτην εἶναι τὴν ὕλην τὴν ἀχώριστον μὲν, ὑποκειμένην δὲ τοῖς ἐναντίοις (329a29-31). perhaps add note on Gill's reading?

gold) is to say that the thing is this, and therefore to say what the thing is; whereas if the matter does not exist separately, is not a this, then the matter could be predicated of the thing, in some appropriate τρόπος, without saying what the thing is. If we assume that the basic subjects of predication exist separately, and that an inseparable thing exists inseparably precisely because it is predicated of some ὑποκείμενον--that if Y is predicated of X, then the existence of Y is derivative from the existence of X, and Y exists because X exists and is Y--then we seem inevitably led to the conclusion that the ultimate answer to τί ἐστὶ, the true οὐσία of generable sensible things, is their prime matter. And this is indeed the conclusion of the Timaeus. Only if we reject the assumptions that the ὑποκείμενον is always separate and that the things predicated of a ὑποκείμενον are always inseparable--and we will see below how Aristotle can avoid these assumptions, despite his apparent commitment to them--only then can we resist the conclusion that prime matter is the οὐσία of the manifest things.

However, before we agree to reopen basic logical commitments about subjecthood and separate existence, we would want to see an argument why prime matter cannot be the οὐσία of the manifest things. Aristotle provides such an argument in the Generation and Corruption passage: "things that have [unqualified] coming-to-be and passing-away cannot be called [by the name of] that from which they came-to-be." That is: if when earth becomes fire there is substantial change and not mere alteration, then earth and fire cannot arise from the same persisting ὑποκείμενον by mere alteration, and therefore it cannot be correct to say that what earth or fire is is the persisting ὑποκείμενον that underlies them both: for to say that there is a substantial change from earth to fire is just to say that there is one οὐσία at the beginning of the change and another οὐσία at the end of the change, rather than a single οὐσία that persists through the change and takes on different qualities. Plato may not even be right to say, of the triangle and the square made out of gold, that what they are is gold: but if he is right, this is only because the production of these different shapes out of the gold is not really a substantial change but only a qualitative or local change. And this is just to say that the analogy breaks down: fire and earth are not related as a gold square and a gold triangle are, because the change between them is substantial, so that there is no one thing which they both substantially are. From this point of view, the gold analogy is just a misleading attempt to avoid the real problem of substantial change by substituting a non-substantial change for the analysandum.

This argument from On Generation and Corruption seems to be the decisive objection to the thesis of the Timaeus that what the manifest things are is their common ὑποκείμενον. So it may at first sight be surprising that Aristotle does not repeat this argument in Z3. But the Generation and Corruption argument works only if we know that the apparently substantial change from earth to fire is genuinely substantial: in On Generation and Corruption Aristotle has already spent a book arguing for the irreducible reality of substantial change, but if he simply assumed this in Z3 he might well seem to be begging the question. So in Z3 Aristotle draws instead on a different and more fundamental objection against the Timaeus' account of the receptacle.

According to the Timaeus, when we point to one of the manifest bodies and ask τί ἐστὶ, the answer is supposed to be given by the receptacle. However, it is not obvious what we are actually supposed to say in answer to such a τί ἐστὶ question. Certainly not "that over there, which looks like water, is really [a piece of] the receptacle of all becoming": the term "receptacle," like the term "demiurge," is a relational term and does not make clear the οὐσία of the thing. The Timaeus in fact emphasizes that it is very difficult to grasp the οὐσία in question. Plato lists many things that we should not say that the receptacle is, including fire and earth and so on; but for a positive account, all he can say is that it is "an invisible and shapeless entity

[άνόρατον εἶδος τι καὶ ἄμορφον], all-receiving, coming to participate in some very problematic way [μεταλαμβάνον ἀπορώτατά πη] in the intelligible, and very difficult to grasp" (51a7-b1).¹⁰ The receptacle must be eternal and non-sensible, like the forms, but it cannot be identical to any of the forms; indeed, it cannot even be qualitatively similar to any of the forms, because it must be able to receive the likeness of each form and of its contrary equally (50e1-51a1). So in seeking to grasp what it is, we must strip away, not only from the sensible qualities of the manifest things, but also from all of the attributes they receive by participation in the forms; and this leaves us with very little positive to say that the receptacle is. Perhaps the most obvious suggestion is that, when we have stripped away sensible qualities and the likenesses of the various forms, what remains as the ὑποκείμενον of all these is three-dimensional quantity, τὸ κοινὸν σῶμα. But it is clear from Plato's account that, in addition to receiving the likenesses of earth, water, air, fire and other such forms, the receptacle must also be able to receive different mathematical attributes: it can take on different shapes at different times, and presumably the same ὑποκείμενον can also become larger or smaller as it comes to participate in different forms (Aristotle thinks that the same underlying matter becomes spatially larger when e.g. it loses the form of water and acquires the form of air).¹¹ Since the receptacle is τοῦτο and τόδε, it must be something καθ' αὐτό (i.e., not on account of participating in some form), but Plato is in difficulty saying what this is, since he has eliminated, not only terms like "fire" and terms like "hot" and "dry," but also all determinate figures and quantities.

This is precisely the difficulty that Aristotle urges on Plato in Z3:

For if [matter] is not [for those who seek the οὐσία as the ultimate ὑποκείμενον] οὐσία, it escapes us what else would be; for when the other things are stripped off nothing [else] seems to remain. For the other things are affections and actions and powers of bodies; and length and breadth and depth are ποσότητες and not οὐσία (for the ποσόν is not οὐσία)--rather, the primary thing these belong to is οὐσία. But when length and breadth and depth are stripped away we do not see anything left over, unless what is determined by these is something: so that to those who investigate in this way, necessarily the matter alone will seem to be οὐσία. (Z3 1029a10-19, cited above)

However, as Aristotle says, the "matter" that we reach by this procedure "is not said καθ' αὐτήν to be τι or ποσόν or any of the other [predicates] by which being is determined" (a20-21). That is: when we abstract away from the forms of fire and earth and the like (and of course from their compounds) and from their "affections and actions and powers" and from every determinate quantity, then just as the remaining ὑποκείμενον is not καθ' αὐτό any particular ποσόν or ποιόν (such as three feet across or yellow), so it is not καθ' αὐτό any particular τι: all the τινά, like all the ποσά and ποιά, have been abstracted away. But it is absurd for matter in this sense to be the οὐσία of anything, since to be this matter is not to be τι: as Aristotle puts it, "[matter] cannot [be οὐσία]: for both χωριστόν and τόδε τι seem to belong especially to οὐσία; so that for this

¹⁰and at 52b2 it is μετ' ἀναίσθησias ἀπὸν λογισμῶ τι νύθω, μόγις πιστόν. note on the use of the word εἶδος for whatever kind of theoretical entity is being posited (as in Plato on God as Nous), so no bizarre metaphysical implications to calling the receptacle an εἶδος; at the same time Plato enjoys the oxymoron ἄμορφον εἶδος. note also on Plato's reasons for saying μεταλαμβάνειν rather than μετέχειν (what it was before it came to participate). ἀπορώτατα (cp. Z3) refers to definite ἀπορία, presumably those of the first part of the Parmenides.

¹¹reference?

reason the form and the composite would seem to be οὐσία more/rather than the matter" (1029a26-30). For this inference to make sense, Aristotle must be assuming that his earlier argument and clarification about the nature of matter have made it obvious that matter cannot be τόδε τι or χωριστόν. He had not, in this discussion, spoken explicitly of "τόδε τι" or "χωριστόν": but he had said that matter "is not said καθ' αὐτήν to be τι" (a20, cp. a24), and to be τι καθ' αὐτό is to be a τόδε, just as to be ποιὸν καθ' αὐτό is to be a τοιόνδε.¹² Plato's view, as we have seen, is that the material ἀρχή (the "receptacle") is indeed τόδε τι, and that it is therefore τι καθ' αὐτό, but the Timaeus cannot say what it is καθ' αὐτό. The Timaeus would presumably explain this embarrassment as arising from the inadequacy of our language, which is well designed for describing sensible objects, gets into difficulties with mathematical objects and forms, and breaks down entirely before something μετ' ἀναισθησίας ἀπτόν λογισμῶ τινι νόθῳ, μόγις πιστόν (52b2). Aristotle argues that the real reason the Timaeus cannot say what the matter is καθ' αὐτό is that matter is nothing καθ' αὐτό, because the procedure for reaching the matter involves stripping away all substantial as well as all accidental predicates.

However, while the Timaeus seems unable to say what the ὑποκειμένη φύσις is (except to say what it is not, and that it is analogous to gold), Plato does try to describe what it is καθ' αὐτό in the third hypothesis of the Parmenides (157b7-159b1).¹³ Here Plato examines the things that are other than the One and participate in the One, and pursues the nature of the μεταλαμβάνοντα, of the things coming-to-participate in the One, by asking what they must have been before they participated in it. At this hypothetical stage they cannot yet be one, but neither can they be finitely many, since they cannot yet contain a one; so they must be infinitely many. Plato takes this reasoning to reveal, not just something that happens to be true of the others before they participate in the One, but the nature of the participants, what is true of them καθ' αὐτά and not merely relationally or by participation. "If in each case we consider αὐτήν καθ' αὐτήν the nature other than the form [i.e. than the One], whatever we see of it will always be ἄπειρον πλήθει" (158c5-7); then "there comes to be, in the things other than the One, from the combination of the One with themselves [i.e. from their participation in the One], something else that gives them a limit [πέρας] in relation to each other, whereas their own nature καθ' ἑαυτά [gives them] unlimitedness [ἄπειρία]" (158d3-6).

Aristotle is quite aware of this Platonic claim that the nature of the material ἀρχή is infinity, and he discusses it at length in Physics III. While all the philosophers make the infinite an ἀρχή, indeed specifically a material ἀρχή, only Plato and the Pythagoreans make it an ἀρχή "καθ' αὐτό, not as an accident of something else, but the infinite being itself an οὐσία" (III,4 203a4-6).¹⁴ This contrasts with the view that the material ἀρχή is (say) an infinite air; while a part of an infinite air could be a finite air, every part of the Platonic infinite ὑποκείμενον must itself be infinite, since the ὑποκείμενον has infinity as its essence and not as an attribute of some further

¹²people who distinguish between τί ἐστὶ and τόδε τι (whether as two criteria for something to be substance, or as substance-of and substance, or as the essence and ὑποκείμενον of a thing) are in difficulty here: the burden is on them to give some alternate construal of Aristotle's argument. again: the problem is not to explain why Aristotle thinks that matter is not τόδε τι, and that the form is (more, or more plausibly) τόδε τι, but to explain why he thinks this follows from what he has just said about matter--and the only relevant thing he has said about matter is that it is not καθ' αὐτήν τι. similar problem about the end of Δ8

¹³refer back to treatment in Iβ4a, from which I will summarize in what follows (on Plato and on Physics III)

¹⁴the general claim at Physics III,4 203a1-4; "all [the earlier philosophers] seem to use the infinite as matter," III,7 208a2-3. different texts of Aristotle go different ways Anaximander and Anaxagoras: Anaximander's ἄπειρον can be read as a mixture (so Λ 1069b22, elsewhere?; Cherniss actually thinks this is right), or contrariwise Anaxagoras' πάντα ὁμοῦ as a single ἄπειρον principle (so A8 989a30ff, esp. 989b16-21, also in Theophrastus)

underlying nature: for "to-be-infinite and [what is] infinite are the same, if the infinite is an οὐσία and not καθ' ὑποκειμένου" (III,5 204a23-4). Aristotle gives a series of criticisms to reduce this thesis to absurdity, but his own conclusion is surprisingly close to the Parmenides' thesis on infinity, with one crucial reservation: "since causes are divided into four [kinds], it is clear that the infinite is a cause as matter, and that [the infinite's] essence [τὸ εἶναι αὐτῶ] is privation, but the ὑποκείμενον καθ' αὐτό is the continuous and sensible" (III,7 207b34-208a2).¹⁵ That is: although the ὑποκείμενον is continuous and infinitely divisible, and so can be called ἄπειρον, to be infinite is not its essence: it is some kind of continuous sensible body which is divided insofar as it is deprived of a unifying form. The ὑποκείμενον can always be deprived of any given form and so can always be divided further, but it cannot be deprived of all form (as the Parmenides' thought-experiment imagines), so that it never becomes actually infinite; still less is there an essentially actually infinite principle always present within the compound, as Plato thinks.

Aristotle repeats this criticism from Physics III, in much briefer compass, in Z3: "the last thing is not per se either τι or ποσόν or anything else: not even the negations, for these too will belong [to it] per accidens" (Z3 1029a24-6). The "negations" here would be, above all, infinity as the complete privation of unity, and perhaps also some contrary to being. But the way we come to know the material ἀρχή is not to see what would result if all forms were simultaneously removed from it (contradictions would result!), but to restrict our attention to what is said of it καθ' αὐτό, disregarding the predicates that belong only κατὰ συμβεβηκός; and when we do this we have no more justification for retaining privations such as infinity than for retaining the positive predicates. This is the point Aristotle is making against Plato in Physics I,7-9, that even though the matter out of which a thing comes to be is numerically the same as the privation, it is not essentially the same, that is, that neither the form nor the privation belongs to it καθ' αὐτό, since if the privation belonged to it καθ' αὐτό it would be incapable of receiving the form. So Plato's attempt to express the τί ἐστὶ of the material ἀρχή through a privation does not succeed.

The result is that while Plato has refuted the claims of the physicists to say what the material ἀρχή is καθ' αὐτό (by saying, for instance, that it is air), Plato himself has no legitimate way to say what it is καθ' αὐτό, not even privatively; Aristotle concludes that it is not anything καθ' αὐτό, and therefore does not exist χωρίς. Matter therefore cannot be the οὐσία of ordinary sensible individuals, and it cannot be prior to them κατ' οὐσίαν; and so it is not, in the desired metaphysical sense, an ἀρχή. Aristotle does not therefore reject the notion of prime matter, and indeed he endorses much of what Plato says about it; although not in Z3, whose aim is negative, to show that matter is not an οὐσία or an ἀρχή. But On Generation and Corruption II,1, after rejecting the Timaeus' claim that matter is the οὐσία of the manifest things, says that we must posit a matter ἀχώριστον μὲν, ὑποκειμένην δὲ τοῖς ἐναντίοις (329a30-31), and it calls this inseparable prime matter ἀρχή καὶ πρώτη (329a29-30); Physics I,9 says that matter qua potentiality [κατὰ δύναμιν, 192a27] is ingenerable and incorruptible, and duly recites the standard argument why any ἀρχή must be eternal (192a25-34). But this matter is not an ἀρχή in the sense that Plato and others had claimed, because it is not actually anything καθ' αὐτό. It is, in any given case, either actually hot or actually cold, either actually wet or actually dry, not being either καθ' αὐτό; to describe it καθ' αὐτό, we must say not what it is (or is not) actually, but what it is potentially, being καθ' αὐτό in potentiality to all sensible contraries. Aristotle therefore replaces Plato's description of matter as privation by a description of matter as potentiality. This potentiality is eternal and so prior temporally, and also by Plato's test, to each of the sensible

¹⁵ cite also III,6 207a21-6, verbally echoing Parmenides hypothesis 3

individuals that it becomes, as a genus is also prior in these ways to its individuals; but the potentiality, like the genus, does not exist separately from the contrary actualities, and is not prior to them κατ' οὐσίαν; and so it is not their ἀρχή.

Πβ2: Aristotle's doctrine of a non-separate ὑποκείμενον

Aristotle thus accepts Plato's arguments that there is a common ὑποκείμενον of all generable things (not καθ' αὐτό having any of their changeable attributes), while denying Plato's claim that this ὑποκείμενον is τόδε or τοῦτο or is something καθ' αὐτό or exists χωρίς. Aristotle's objections against Plato, together with Plato's objections against the physicists, are supposed to show that we cannot find the ἀρχαί by seeking the ultimate ὑποκείμενα of things; and so, from Z4 on, Aristotle explores other paths to the ἀρχαί instead. But Aristotle himself is in some difficulty, and owes us some explanation, about the status of the ultimate ὑποκείμενον. Over and over, Aristotle speaks interchangeably of X's being an οὐσία and of X's existing not καθ' ὑποκειμένου. Since the ultimate ὑποκείμενον exists not καθ' ὑποκειμένου, it seems that it should be an οὐσία, although Aristotle insists that it is not except in a weakened sense; and since generable things, as compounds of matter and form, are predicated καθ' ὑποκειμένου of their matter, it seems that they should not be οὐσία, although Aristotle insists that they are.

The problem can be framed most clearly in terms of Aristotle's denial that matter exists χωρίς or καθ' αὐτό. We examined Aristotle's notion of existence καθ' αὐτό in Πβ4 above, taking as central Aristotle's explanation in Posterior Analytics I,4: what exists καθ' αὐτό is "what is not said of some other underlying thing [ὃ μὴ καθ' ὑποκειμένου λέγεται ἄλλου τινός]: for example, the walking [thing], being something else, is walking [τὸ βαδίζον ἕτερόν τι ὃν βαδίζον ἐστί], and likewise the white, but οὐσία, 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" (73b5-10). This text seems to clearly imply that since matter is an ultimate ὑποκείμενον and so is not καθ' ὑποκειμένου, it must exist καθ' αὐτό; but Z3 denies that matter exists χωρίς or is τόδε τι. It is hopeless to try to resolve the contradiction by distinguishing between existing καθ' αὐτό and existing χωρίς or being τόδε τι, which Aristotle always treats as interchangeable; but what else can be done?

Aristotle's basic thought in the Posterior Analytics passage is that if X exists but not καθ' αὐτό, it exists parasitically on something else that does exist καθ' αὐτό. In the most straightforward cases, such as X = white, X exists only because, for some Y, Y exists καθ' αὐτό and Y is X. In other cases, such as X = whiteness, we should say rather that X exists only because, for some Y, Y exists καθ' αὐτό and X is predicated paronymously of Y--in our example, Y is not whiteness but white. (In the first case I say that X exists not καθ' αὐτό and concretely, in the second that it exists not καθ' αὐτό and abstractly.) In either case the parasitic being, X, exists because some τόδε, Y, exists, and Y is a subject of which X is predicated either synonymously or paronymously: for Y to exist is just for this τόδε to exist, and for X to exist is for this τόδε also to be τοιόνδε (in the examples, for it to be white). So it seems that the ultimate subject should be a τόδε; and everything that is predicated of a subject, unless it says what the subject is and is essentially identical with the subject, should be a τοιόνδε and exist not καθ' αὐτό.

However, we certainly cannot infer, simply because the linguistic formula "X" can be predicated in a true sentence of the linguistic formula "Y," that (unless X and Y are essentially

identical), X does not exist καθ' αὐτό and is dependent on Y. As Aristotle notes in Posterior Analytics I,22, there are true sentences like "the white is wood," where the white is dependent on the wood rather than vice versa: Philoponus in his commentary calls these παρὰ φύσιν predications, where the linguistic order is the contrary of the order in re. We cannot infer from the truth of "the white is wood" that wood exists not καθ' αὐτό, because although X (the wood) exists, and although there is some Y (the white) such that Y exists and Y is X, it is not true that X exists because Y exists and is X. So when Aristotle says that X exists not καθ' αὐτό if the X ἕτερον τι ὄν is X, the participial clause has to be interpreted carefully, as meaning not simply that the thing that is X is also something else (call it Y), but also that this thing's being Y is naturally prior to its being X. As Aristotle puts it in Posterior Analytics I,22, "when I say that the white is wood ... [I am not saying] that the ὑποκείμενον of the wood is the white: for it is not the case that, being white, or being just some white, it became wood [οὔτε λευκὸν ὄν οὔθ' ὅπερ λευκὸν τι ἐγένετο ξύλον]" (83a4-8). Here Aristotle is using the fact that we cannot say "being white, it became wood [λευκὸν ὄν, ἐγένετο ξύλον]" as a sign of the deeper fact that we cannot say "being white, it is wood [λευκὸν ὄν ξύλον ἐστί]," which would imply "the wood, being something else, is wood [τὸ ξύλον, ἕτερον τι ὄν, ξύλον ἐστί]" and thus that the wood does not exist καθ' αὐτό. In other words, in Posterior Analytics I,22 Aristotle uses the temporal priority of one description of the thing (wood) to another (white) as a sign of ontological priority. There was non-white wood that became white wood, rather than white non-wood that became white wood; so it was a persisting wood that took on the attribute of being white, rather than a persisting white that took on the attribute of being wood; and Aristotle uses this as a sign that the thing that is now both wood and white is just [ὅπερ] wood that happens [συμβέβηκε] to be white, rather than just white that happens to be wood; thus for this thing to be wood is for it to be τὸδε and for it to be white is for it to be τοιόνδε, so that the wood exists καθ' αὐτό and the white does not.

In the Posterior Analytics the wood and the white are simply examples to help introduce the reader to the notions of existence, and predication, καθ' αὐτό and not καθ' αὐτό. It is not the business of the Analytics to explore in depth questions about the relations between temporal and ontological priority, between Y's becoming X and Y's being X. But in the Metaphysics and in the physical works (in the Physics and the On Generation and Corruption) Aristotle challenges the inference apparently approved by Posterior Analytics I,22, that if Y becomes X (and if the result remains Y), then the resulting object is essentially a Y that happens to be X, rather than essentially an X that happens to be Y.¹⁶

Plato, unlike the Aristotle of the physical and metaphysical works, does accept this inference. One example is the inference of the Timaeus that if something becomes fire, the resulting object is not ὅπερ fire, but some other underlying nature that happens to be fire. Another example is the inference of the third hypothesis of the Parmenides that the things other than the One are of their own nature what they are before they participate in the One, namely ἄπειρον πλήθει: as Plato says, "their own nature καθ' ἑαυτά gives them ἀπειρία" (158d5-6), whereas they have unity or definite multiplicity not καθ' αὐτά but only by participating in something else. Part of Plato's reasoning is that the things other than the One cannot be ὅπερ one (since then, he thinks, they would be identical with the One itself), and so they must have some other underlying nature which happens to be one. But some further argument is needed to show that this underlying nature is multiplicity (or specifically infinite multiplicity) rather than fire or horse or whatever

¹⁶this is oversimplifying. it might not be ὅπερ Y, if Y in turn is predicated of some more fundamental nature Z; the object could then be ὅπερ Z which happens to be Y and to be X. but the Y has to be at least as fundamental ontologically as the X; the thing cannot be ὅπερ X which happens to be Y

specific natures different things other than the One might happen to have. One way to fill in the reasoning is by something like Plato's test: something that is other than the One and participates in the One must be a multiplicity-which-is-one; multiplicity-which-is-one cannot exist without multiplicity, but it is not (or not so obviously) true that multiplicity cannot exist without multiplicity-which-is-one; so, by Plato's test, multiplicity is prior to multiplicity-which-is-one, and thus to any one other than the One-itself. More generally, if Y becomes X (and the result remains Y), then Y-which-is-X cannot exist without Y, but Y can exist without Y-which-is-X, and so by Plato's test Y is *κατ' οὐσίαν* prior to Y-which-is-X, or this thing's being Y is prior *κατ' οὐσίαν* to its being Y-which-is-X; so this thing (unless it has some third nature Z) is *ὅπερ Y* which happens to be X, and not *ὅπερ X* which happens to be Y.

Aristotle, however, challenges this inference, as indeed he must challenge it if he is to admit substantial coming-to-be without admitting coming-to-be *ex nihilo*. For if X is an οὐσία, and X comes-to-be, and if X comes-to-be not *ex nihilo* but out of some Y, and if (as Aristotle follows the Timaeus in assuming) we can choose a description of Y (as the matter, not the privation) so that the result of the change remains Y, then Plato's inference would imply that the resulting object, which is Y and is also X, is not *ὅπερ X*, and thus contradict the assumption that X is an οὐσία. The Timaeus apparently solves this problem by denying substantial change, and arguing that what appear to be substantial changes are just qualitative changes in the receptacle.¹⁷ Since Aristotle insists that there are genuine substantial changes--this is of course a central thesis of the On Generation and Corruption--and yet that all coming-to-be is out of a pre-existing matter, he must challenge Plato's inference. He does this by challenging the application of Plato's test for priority *κατ' οὐσίαν* on which it is based.

As we have seen, Aristotle thinks that Plato's test, as formulated by Plato, is too weak to prove priority *κατ' οὐσίαν*, and that further refinements are needed. Plato's test says that A is prior to B *κατ' οὐσίαν* if A can exist without B and B cannot exist without A. Aristotle says that this does not always hold unless "A" signifies *τόδε τι*. For without some such restriction, Plato's test proves too much. Notably, it would prove that being, *τὸ ὄν*, is prior *κατ' οὐσίαν* to everything else, since nothing else can exist without *τὸ ὄν* existing, whereas *τὸ ὄν* can exist without any other given thing. Plato is happy enough with this conclusion, but Aristotle thinks it is plainly sophistical, and he has a diagnosis for what has gone wrong. While nothing can exist without *τὸ ὄν* existing, it is not the same *ὄν* that must exist when Socrates exists and that must exist when Xanthippe exists (just as it is not the same animal that must exist when Socrates exists and that must exist when Xanthippe exists), and so there is no one *ὄν* that is proved to be prior to everything else. The sophism arises because we use the phrase "*τὸ ὄν*" as if it signified *τόδε τι*; if it really did signify *τόδε τι*, the argument would be valid. In fact, however, *τὸ ὄν* is not *τόδε τι* and does not exist *καθ' αὐτό*: that is, *τὸ ὄν* exists not because there is something whose nature is just to be *ὄν*, but because Socrates exists and is *ὄν*, or because Xanthippe exists and is *ὄν*, and so on in each case; *τὸ ὄν* exists parasitically on these other things, and is not prior to them.¹⁸

¹⁷possibly Parmenides hypothesis 5 countenances the alternative possibility that an οὐσία X can come-to-be out of a non-existent X, rather than out of an existent non-X. perhaps another alternative (Democritus', and Plato seems to be considering it in Parmenides hypothesis 2, perhaps also in the Timaeus' accounts of the coming-to-be of different kinds of bodies from the recombinations of the elementary triangles) is that an οὐσία X can come-to-be not out of an existent thing but out of many existent things, when they come together as a whole; but it is not clear that this would avoid the objectionable consequence

¹⁸but note that *τὸ ὄν* is also not an accident for Aristotle, and that he is in a sense willing to concede that Xanthippe is *ὅπερ ὄν τι*, while elsewhere he stoutly denies that *τὸ ὄν* exists *καθ' αὐτό*; recall Aristotle's solution from Γ2 (for X to be *ὄν* and *ἔν* is just for it to be X, not for it to participate in anything further)

This general caution about Plato's test applies specifically to the present case. If gold becomes a triangle while remaining gold (having been previously a gold square), then the gold triangle cannot exist without the gold but the gold can exist without the gold triangle; but this does not prove that the gold is prior κατ' οὐσίαν to the gold triangle and to the gold square, unless we know that "gold" signifies τόδε τι. If "gold" does not signify τόδε τι, then while gold must exist whenever any particular gold figure exists, it need not be the same gold that exists when a gold triangle exists and that exists when a gold square exists, just as it need not be the same ὄν that exists when Socrates exists and when Xanthippe exists; and gold may exist not καθ' αὐτό, parasitically on and posterior to the gold triangle and the gold square, just as τὸ ὄν and τὸ ζῶον exist parasitically on and posterior to Socrates and Xanthippe. Plato assumes in the Timaeus that the gold, and by analogy also the receptacle or prime matter, is indeed τόδε τι; this leads to the conclusion that when the matter has become fire, the resulting object is ὅπερ matter that happens to be fire rather than ὅπερ fire that happens to be matter, and so it leads to a denial of genuine substantial change. In order for Aristotle to defend genuine substantial change against Plato, he must deny that the matter of substantial change is τόδε τι; perhaps Plato is right about the gold, but if so this means only that the coming-to-be of the gold triangle is not genuine substantial change, and that the analogy between the gold and prime matter is misleading.

That there is a kind of ὑποκείμενον which is not τόδε τι is in fact a central thesis of the accounts of substantial coming-to-be in Physics I,7 and (at greater length) in On Generation and Corruption I,3-4. The main burden of Physics I,7, after Aristotle has analyzed the easy cases of non-substantial change and carefully distinguished the ἐξ οὗ into the persisting ὑποκείμενον and the non-persisting ἀντικείμενον (the privation of the form acquired through the change), is to apply this analysis analogically to the contested cases of substantial coming-to-be: "that οὐσίαι too, and whatever things are being ἀπλῶς [in addition to things in the other categories, already discussed], come-to-be out of some ὑποκείμενον, would be clear to one who investigates" (Physics I,7 190b1-3). At one level, Aristotle is just following the Timaeus in applying the analogy from non-substantial changes and arguing that there is a persisting ὑποκείμενον also in substantial change, while being more careful than Plato to distinguish the persisting ὑποκείμενον from the privation. But beyond this, Aristotle is trying to hold together two apparently conflicting theses, namely (i) that ordinary cases of generation are coming-to-be out of some persisting ὑποκείμενον, and (ii) that nonetheless these are genuinely substantial changes. A modern reader of the Physics might not notice a tension between these two theses, but that Aristotle perceives such a tension is clear especially from the beginning of On Generation and Corruption I,3, which asks "whether there is anything that comes-to-be and passes-away ἀπλῶς, or whether nothing [comes-to-be] κυρίως, but always [comes-to-be] out of something and [comes-to-be] something [ἐκ τινος καὶ τί], I mean as out of sick [person] healthy [comes-to-be] and sick out of healthy, or small out of large and large out of small, and all the others of this kind. For if there is coming-to-be ἀπλῶς, something would come-to-be ἀπλῶς from not-being, so that it would be true to say that not-being belongs to things [ὅτι ὑπάρχει τισὶ τὸ μὴ ὄν: i.e. that what-is-not exists, that there is something that is what-is-not]: for coming-to-be something is from not-being-something, e.g. from not-white or not-beautiful, but ἀπλῆ coming-to-be is from ἀπλῶς not-being" (317a31-b5). Of course, Aristotle's intention is to defend coming-to-be ἀπλῶς--that is, substantial generation--while denying coming-to-be ex nihilo, and so he wants to show that coming-to-be ἐκ τινος καὶ τί can sometimes be coming-to-be ἀπλῶς; but he thinks it is problematic how this can happen, and this is what he will try to explain. Aristotle's innovation in Physics I,7-8 and GC I,3-4 is not in his saying that X can come-to-be neither "out

of being" nor "out of not-being" because it can come-to-be out of something which exists but is not X (this is obvious, and it is silly to think that Aristotle's predecessors had not seen it), but rather in his arguing that such change out of a pre-existing and persisting ὑποκείμενον can be substantial and not merely accidental change. If we explain X's coming-to-be by saying that it comes-to-be out of a pre-existing and persisting ὑποκείμενον Y, we are analyzing "X comes-to-be" as "Y comes-to-be X." This is the obvious way to analyze accidental change: since where X is an accident we analyze "X is" as "Y is X," we will also analyze "X comes-to-be" as "Y comes-to-be X." But this analysis seemed (to everyone before Aristotle) to be inadequate if X is an οὐσία, since it seems to reduce the change to an already existing thing's taking on a new predicate, rather than a genuinely new thing's coming to exist: the Timaeus seems to accept that change so analyzed is no longer truly substantial change. Aristotle in fact agrees with earlier physicists that such coming-to-be comes about through alteration or locomotion or growth and diminution or combination and separation: "the things that come-to-be ἀπλῶς come-to-be, some by reshaping, like a statue, others by addition, like growing things, others by taking away, as the Hermes comes-to-be out of the stone, others by combination, like a house, others by alteration, like things that are turned about in their matter" (Physics I,7 190b5-9). But when something that changes in this way crosses the border of a substantial differentia, then it no longer remains this thing:¹⁹ and so the description of the thing under which it persists through the change is not enough to make it this or that. Aristotle's solution thus turns on accepting the arguments that some ὑποκείμενον must persist through the change, while denying that some this must persist through the change: the ὑποκειμένη φύσις is analogous to the bronze underlying a statue, but as the bronze is to the statue, so the material principle is πρὸς οὐσίαν καὶ τὸ τόδε τι καὶ τὸ ὄν (so 191a7-12; the quoted words at 11-12), and so it is not itself οὐσία or τόδε τι.²⁰

The consequence of these arguments is that the logical syntax of coming-to-be and the logical syntax of being are not always parallel. In cases of substantial coming-to-be, the correct analysis of "X comes-to-be" is to "for some Y, Y comes-to-be X," even though, since X is an οὐσία and exists καθ' αὐτό in the sense of Posterior Analytics I,4, it is not correct to analyze "X is" as "for some Y, Y is X." So in these cases the temporally persisting thing, which is the logical subject of γίγνεσθαι, is not the same as the ontologically basic thing, which is the logical subject of εἶναι. This distinction allows the result of the change to exist καθ' αὐτό, and it also allows what persists through the change to exist not καθ' αὐτό; and this is what Aristotle needs in Metaphysics Z3 to escape absurdity in asserting that the prime matter of the Timaeus, despite being reached as an ultimate ὑποκείμενον, is not χωριστόν or τόδε τι. How then does matter exist, if not καθ' αὐτό?

Aristotle's thought seems to be as follows. X exists καθ' αὐτό if there is something, some τόδε, whose nature is just to be X. X exists not καθ' αὐτό if there is no τόδε whose nature is just to be X, but there is some τόδε, having some other nature Y, of which X is predicated in some way. Assuming that the change of a gold square into a gold triangle is genuinely substantial, then, against Plato, gold is not a τόδε and is not the answer to a τί ἐστὶ question asked of a gold square or a gold triangle; gold is predicated of them somehow, but it must be predicated of them

¹⁹note comparing this passage with Metaphysics H2, a very similar list of differentiae, here applied to the question of coming-to-be. the H2 passage is saying that there are more kinds of differentiae than Democritus recognizes, and the Physics I,7 passage is saying that there are more ways of coming-to-be ἀπλῶς than Democritus recognizes; cp. the critique of Democritus developed at greater length in GC I,2-4. (on τρεπόμενα, see Ross' note: wine becoming vinegar would be an example)

²⁰parallel discussion in GC I,3-4, much more long-winded; note on τόδε τι in 191a13 (which is not to the point) and on question of οὐσία in 191a19-20, NB looking forward to Physics II,1 rather than to the Metaphysics

in the *ποῖόν ἐστι* rather than the *τί ἐστι*. Aristotle thus reverses the judgment of the *Timaeus*. The *Timaeus* thinks that gold is what the gold triangle and the gold square are, in the *τί ἐστι*, while triangle and square are only what they are like, the *ποῖόν ἐστι*; what truly is a triangle, in the *τί ἐστι*, is the separate form of triangle, and the gold triangle is called a triangle because it is like that separate form. Aristotle says, by contrast, that (if the change is substantial) the gold triangle is a triangle, and the gold square is a square, in the *τί ἐστι*, while they are gold only in the *ποῖόν ἐστι*. And this ontological difference in the modes of predication will be matched by a difference in their linguistic forms, if we speak accurately. We have already quoted from *On Generation and Corruption* II,1 Aristotle's protest against the *Timaeus*' saying "that there is a *ὑποκείμενον* prior to the so-called elements, like gold to gold products": "but even this is not said rightly when it is said in this form [*τοῦτον τὸν τρόπον λεγόμενον*]; rather, 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. Notwithstanding, he says that 'by far the truest is to say that each of these is gold'" (GC II,1 329a16-2). When Aristotle says that "even this is not said rightly when it is said in this form," he seems to be objecting, not just to Plato's saying "by far the truest is to say that each of these is gold," but more fundamentally to Plato's speaking of "gold" [*χρυσός*] and "gold products" [*τὰ ἔργα τὰ χρυσά*]: to speak this way implies that the products are themselves gold, whereas, if they are really the results of substantial change, they "cannot be called [by the name of] that from which they came-to-be." Consequently, it is not right to call them "gold products": we should change the form of the word, and call them, not "gold" [*χρυσά*] but "golden" [*χρύσεια*]. Gold is thus predicated of the things that are made out of it, not synonymously, but paronymously, and this paronymous predication is the proper linguistic reflection of the fact that gold answers the *ποῖόν ἐστι* and not the *τί ἐστι* question about them.

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--the latter [e.g. the wood] is *ἀπλῶς* potentially that 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] *ἀπλῶς* of [box] *ἀπλῶς* 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 *ὑποκείμενον*, differs, in that one [*ὑποκείμενον*] is a this and another is not. Thus man, and body and soul, is the *ὑποκείμενον* of the affections, and musical or white is an affection (when music comes-to-be-in [the *ὑποκείμενον*], it 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 *ὑποκείμενον* is a this, and is called paronymously from the affected] the ultimate thing is *οὐσία*: but in the other kind of case, where what is predicated is a form and a this, the ultimate thing is matter and *οὐσία*-in-the-sense-of-matter [*οὐσία ὑλική*, as opposed to *οὐσία ἀπλῶς*]. And it comes out right [*ὀρθῶς συμβαίνει*] that "that-en" ["*ἐκείνινον*," standing in for any paronymous term] is said both with respect to [i.e. paronymously from] the matter and with respect to the affections: for both are indeterminate [*ἀόριστα*; i.e. to say that something is

made of this matter, or that has this affection, does not determine what the thing is]. (Metaphysics Θ7 1049a18-b2)²¹

The upshot is that the predicates "golden" and "white" are of the same logical type; and the things from which these paronymous predicates are taken, gold and whiteness, have the same ontological status. In the terms I have used above, both whiteness and gold exist not καθ' αὐτό and abstractly. That is: whiteness exists, not because there is something whose nature is just to be whiteness, nor because there is something, having some other nature Y, such that Y is whiteness, but because there is something, having some other nature Y, such that Y is white: whiteness exists because it is predicated paronymously of something that exists καθ' αὐτό. So too, gold exists, not because there is something whose nature is just to be gold, nor because there is something, having some other nature Y, such that Y is gold, but because there is something, having some other nature Y, such that Y is golden: gold, like whiteness, exists because it is predicated paronymously of something that exists καθ' αὐτό. If the formation of something out of gold is a genuinely substantial change, then this will be true literally about gold; and it will also be true at each further level of analysis to a ὑποκείμενον of substantial change. If, as the Timaeus asserts and as On Generation and Corruption II,1 agrees, there is a single first matter of all generable things, then, against the Timaeus (taking fire, for example, to be the first matter) "fire will be the first matter, not being τόδε τι". The first matter will be, in a sense, the ultimate ὑποκείμενον which is no longer said καθ' ὑποκειμένου, since it is what remains when all forms and everything that depends on form is taken away, and since it persists through all changes. But, grammatically, Socrates can be predicated of the white as well as vice versa, and the gold can be predicated of the statue as well as vice versa. And, in the sense in which things that exist not καθ' αὐτά exist καθ' ὑποκειμένου, the first matter exists καθ' ὑποκειμένου, since it exists, derivatively, because it is predicated paronymously of the things that come-to-be out of it, the form-matter composites, while the existence of these things is not derived from their being predicated of anything else. So Plato's first matter is not the ἀρχή, in the desired sense, of the form-matter composites; it remains to be seen whether his forms fare any better.

²¹cp. Physics VII,3 245b9-246a4 [or more] and Metaphysics Z7 1033a5-23 {note however that the doctrine in the Z7 passage seems to be different, namely that when X comes-to-be out-of Y as privation rather than as subject, X is not said to be Y (but at most Y-en; even that?); that doesn't seem to explain why the statue is brazen, but Aristotle says that since in this case we have no name for the privation, we say that the statue comes-to-be out-of bronze, in the way we use out-of of the privation (I suppose the idea is that "bronze" also connotes the nameless privation), and so now we cannot say that the statue is bronze, but only that it is brazen. this seems to sidestep what from the point of view of Θ7 and GC II,1 is the crucial question, whether the change is accidental, with a persisting substantial subject, or substantial change where only a non-substantial subject persists}