

IIδ: Z10-16: Physical and dialectical parts of the λόγος do not exist prior to the thing

Metaphysics Z10-16 are among the most difficult chapters in Z, and in the Metaphysics as a whole; they are a test for any interpretation. While I have argued in IIα3 above that Z10-16 function together in Z as an examination of the οὐσία as the parts in the λόγος of sensible things (the third sense of οὐσία from Δ8, alongside the ὑποκείμενον and the essence), most interpreters do not treat these chapters together as a unit, and indeed have some difficulty explaining how these chapters fit into Z. This is largely because they try to fit the argument of at least Z3-16 into the framework of the four senses of οὐσία from the first sentence of Z3, the ὑποκείμενον, essence, universal and genus (or rather into a framework of three senses, since they treat the genus as a mere subcase of the universal): they thus treat Z3 as the account of the ὑποκείμενον, Z4-12 (and not just Z4-9) as the account of the essence, and Z13-16 as the account of the universal. As I have argued briefly in IIα3, and as we will see in more detail in the present chapter, this gets them into difficulties in Z10-16. Z12 does not fit at all, since it is discussing problems about genera and differentiae before Z13 calls on Z3 to take up the promised discussion of universals; and so Ross and Frede-Patzig and Burnyeat (among others) expel Z12 as an interpolation,¹ assimilate Z10-11 to the Z4-9 discussion of the essence (or more strictly to Z4-6, since they regard Z7-9 as a later insertion),² and make Z13-16 the discussion of universals. This does not do justice either to Z10-11 or to Z13-16.

Most obviously, while Z16 concludes that "none of the things that are said universally is οὐσία" (1041a4), it equally concludes that "no οὐσία is [composed] out of οὐσίαι" (1041a4-5), and while it has argued before that being and unity (the most universal things) are not οὐσίαι, it has equally argued that "the parts of animals ... and earth and fire and air" (1040b6-8) are not οὐσίαι. Clearly Z16 is drawing consequences from the investigation of οὐσία for the list of alleged οὐσίαι from Z2, excluding not only dialecticians' ἀρχαί like being and unity but also physicists' ἀρχαί like the homoeomerous parts of animals (for Anaxagoras) or the anhomoeomerous parts of animals and ultimately the four simple bodies (for Empedocles); it does violence to the text to subordinate this to an investigation of universals. Nor is it sufficient to solve the problem, with Frede-Patzig, by saying that Z16 is an appendix and that the account of the universal is just Z13-15,³ since already in Z13 Aristotle had stated the general thesis that no οὐσία is composed out of οὐσίαι (1039a3-4), and had applied this thesis to alleged

¹contrast with Bonitz, as in a footnote to the OSAP paper. note that Ross in his commentary on Z raises no problems with Z12 and takes it as an integral part of the argument, and likewise in his introduction when he's going through Z, but in the earlier section of his introduction on the structure of the Metaphysics, where he's reviewing Jaeger's results, he says that what Jaeger says about Z12 is plausible

²contrast between the attitudes toward Z12 and toward Z7-9, in Frede-Patzig and Burnyeat. while the easiest thing to say is that these scholars regard Z7-9 as a later insertion, by Aristotle himself, in a previously continuous Z4-6,10-11 (and while this was Ross' view), in fact this does not yield a very plausible continuous text, and (i) Frede-Patzig says that Z4-6 and Z10-11 are originally independent essays, subsequently integrated by Aristotle with other such essays and with the introductory Z1-2 to constitute an Ur-Z, with Z7-9 a later addition; (ii) Burnyeat says that Z6 is "semi-detached" and that Z10-11 pick up from Z4-5. none of these contortions is likely to help. also note Ross' attitude to Z7-9 is curiously contrary to his attitude to Z12: in his commentary he finds it plausible that Z7-9 were originally an independent work, although in the section of the introduction on the structure of the Metaphysics he raises no difficulties about them, and in the section of the introduction where he's following Z he says merely that they're digressive. Jaeger in 1912 and 1923 raises no difficulties about Z7-9, but double-brackets them in his 1957 OCT, and says something in a note at the beginning of Z7 that I have yet to really decipher

³references, to IIα3 and to Frede-Patzig

constituent οὐσίαι including not only universals but also Democritean atoms (a7-11) and units as constituents of numbers (a11-14). Frede-Patzig and many others, guided by the list of senses of οὐσία from Z3 but also by their understanding of what the main challenges of Aristotelian metaphysics would be, concentrate heavily on the Z13 argument that no universal is an οὐσία, and reduce the rest of Z13-16 to illustrations or polemical applications of this main thesis. (Most often, in the discussions of the last fifty years, Z13 has been read as if it were addressing the recent controversy about whether forms are universal or individual: we are under pressure from Z4-11 to think that οὐσίαι are forms, we are under pressure to think that forms are definable and therefore universal, but we are also under pressure from the arguments of Z13 to think that no universal is οὐσία; unless we are willing to conclude that nothing, or nothing within the material world, is an οὐσία, we want to solve this trilemma, perhaps by showing how forms can be individual, or by drawing some distinction in the terms. Burnyeat is right to point out that Z13 shows no awareness of this problem and never mentions forms at all.)⁴ But when we read Z13-16 for its own sake it is clear that the arguments about universals and about physical constituents have the same status, and that neither should be subordinated to the other.

So too, when scholars assimilate Z10-12 (or Z10-11, taking Z12 as an interpolation) to the account of the essence in Z4-9, they are led to marginalize distinctive themes of these chapters, and the overall theme that they share with the rest of Z10-16 rather than with Z4-9, namely the investigation of the parts in the λόγος of a thing, and especially of whether these parts are οὐσίαι and whether they are prior to the thing. Z10 presents itself not as an inquiry into the essence but as an inquiry into the parts of the λόγος: "since the definition is a λόγος, and every λόγος has parts, and the part of the λόγος stands to the part of the thing as the λόγος stands to the thing, the ἀπορία already arises whether the λόγος of the parts ought to be present in the λόγος of the thing or not" (1034b20-24, cited Πα3 above). The parts of the λόγος under investigation in Z10 are physical constituents, that is, parts of a physical λόγος of a thing (as β and α are parts of the λόγος of βα), but later in Z10-16 he is also considering genera and differentiae, which are parts of a dialectical λόγος: thus Z13 says that "none of the things in the λόγος is the οὐσία of anything or exists separate from them or in something else: I mean, for instance, that there is no animal apart from the particular [animals], nor any other of the things in the λόγοι" (1038b31-34, cited Πα3 above). As I have argued in Πα3, Z10-16 together are investigating both sides of aporia B#6 (with the connected #7-9), asking whether the parts of the physical or of the dialectical λόγος of a thing are ἀρχαί and στοιχεῖα of the thing. But Ross and Frede-Patzig and most recent scholars not only miss the themes connecting Z10-11 with Z13-16 (and, of course, with Z12) but also marginalize the theme of parts within Z10. Aristotle answers his question whether the parts of the thing are parts of its λόγος by distinguishing parts of the matter from parts of the form and saying that only the parts of the form of the thing are parts of its λόγος, and

⁴references, and note on the history of the controversy, going back to Albritton et al. in the 1950's (first this is supposed to be a problem for the interpreter of Aristotle, then the concern is projected back on to Aristotle, by Owen in "Particular and General" if not before; note the false assumption shared by most of the modern literature that the "traditional" view was that [all] forms are universal. interestingly, Ross in his introduction to the *Metaphysics* endorses individual forms, citing A4, but does not make much of it. the German {originally Hegelian?} glossing of "form" as "Begriff" may have contributed to the presumption against individual forms). in Z13 "εἶδος" occurs only once, at 1038b23, where it should be translated "species"; also "essence" and "actuality" are mentioned in 1038b2-6, but only where Aristotle is reviewing what he has done in previous chapters, not where he is talking about the topics of Z13-16. Burnyeat still puts far too much emphasis on universals in Z13-16, and too little on constituents, because he is convinced, like the others, that this will be a fundamental issue for Aristotelian metaphysics; his solution is apparently that while an οὐσία (without genitive) cannot be universal, the οὐσία of something can, although not in the way that the species and genera of the Categories are

if we summarize this by saying that the definition of a thing is of its form alone, and therefore that the definable essence is the form without the matter, we can connect this with the discussion of essence in Z4-6. Thus Ross says that "the discussion [of essence] is resumed, after a digression [sc. Z7-9], in chs. 10, 11, the main interest of which lies not in Aristotle's answer to the questions he explicitly asks but in the complicated set of entities which emerges in the course of the discussion" (AM I,c), i.e. not in the issues about parts but in the form and its compounds with individual or universal (and sensible or mathematical) matter (Ross' discussion, pp. c-civ, barely mentions the parts); likewise Frede-Patzig say that the "basic thought" of Z10-11 is "that the definition of a thing is the definition of its form and only of its form" (FP I,25), or equivalently that the essence of the thing is its form (so FP I,33). This connects Z10-11 with Z4-6 at the cost of leaving out Z10's concern with the parts of the thing; and since it is the parts which claim to be ἀρχαί, it also leaves out Z10's concern with ἀρχαί, and in particular with the question of B#6, whether the physical constituents or the genera are ἀρχαί and στοιχεῖα of the thing. These writers are, of course, aware that Z10 is also addressing a question about parts (although they may not be aware that it is addressing B#6), but they try to read as much of the chapter as possible as addressing the question whether the essence is the form alone or the form together with the matter. And, in general, by assimilating Z10-11 to the investigation of οὐσία as essence and restricting Z13-16 to the investigation of οὐσία as universal, they marginalize the themes of parts and of ἀρχαί, and reduce each chapter in this section of Z to a series of notes on almost unconnected topics; and the section as a whole does not add up to anything either.

The question is how much better we can do. I will try to show that we can make coherent sense of the argument of each chapter, and of Z10-16 as a whole, if we see Z10-16 as functioning within the overall argument-structure of Z as I sketched it in IIα3: these chapters are investigating the claim that the parts of either a physical or a dialectical λόγος of X are ἀρχαί of X (in the strict sense which entails that they are οὐσίαι existing prior to X), and they are arguing that this claim is false. One advantage of this approach is that, by putting Z10-16 in its context not only in Z but in the larger argument of the Metaphysics, it gives us Metaphysics B#6ff as a guiding thread (apparently never before used) for interpreting these chapters of Z; we will also be able to see how Aristotle uses distinctions he has set out in Δ in order to solve these aporiai. And, as an important byproduct, we will be able to see how Z12 functions in the larger argument, and we will have no need to expel this chapter for the sake of the argument-structure of Z.

On this interpretation, the main function of Z10-16 (as of Z3 and of Z4-9) is negative, to show that neither the parts of a physical λόγος of X nor the parts of a dialectical λόγος of X are prior in οὐσία to X: the argument concludes with the last sentence of Z16, "so it is clear that neither is any of the things said universally an οὐσία, nor is any οὐσία [composed] out of οὐσίαι" (1041a3-5). But Aristotle's argument leads to a difficulty which he feels compelled to address in a more positive way. For if no οὐσία is out of οὐσίαι, and if also no οὐσία can be out of non-οὐσίαι (since no non-οὐσία can be prior to an οὐσία), then this seems to imply that the whole project, shared by physicists and dialecticians alike, of giving the λόγος of a thing, spelling it out into some kind of στοιχεῖα and thus grasping the thing's οὐσία and coming to have scientific knowledge of it, is impossible; and this seems to imply that science itself is impossible. Aristotle's aporiai against the physicists and dialecticians thus yield a serious aporia against Aristotle's own position, and Aristotle feels the need of answering it: this is what he is doing in Z17-H6. And thus the present interpretation of Z10-16 will also give a key to interpreting Z17-H6, to be discussed in IIε below. This is important, because up to now interpreters of these chapters have been embarrassingly short of keys. Z17 takes up yet again the question "what is

οὐσία?" (that is, "what is the οὐσία of X?"), but it does not (on my interpretation or anyone else's) pick up any of the paths of investigation of οὐσία laid down in Z3. Aristotle starts Z17 by saying "let us say, making as it were a new beginning, what and what sort of thing we must say οὐσία to be" (1041a6-7), as if the previous investigations of οὐσία had failed, and on the standard interpretation this looks like an afterthought, as if Aristotle has become dissatisfied with his earlier attempts: but then it is not clear either why Aristotle changed his plan or why he did not revise the program of Z3 to accommodate the new investigation of Z17 and show how it relates to what has gone before. And it is equally unclear why Metaphysics H is needed. H starts by saying that "we must reason from [or 'add up'] the things that have been said, and, collecting the main point [κεφάλαιον], supply a conclusion [τέλος]" (1042a3-4), but it is not immediately obvious that H is directed toward supplying something in particular that was lacking in Z, and most scholars seem to treat H as a miscellaneous collection of further explorations of topics from Z. On my view, Z17-H6 are a single connected discussion, and they are responding specifically to the aporia of Z10-16, rather than taking up a new investigation of οὐσία coordinate with the investigations of Z3, Z4-9, and Z10-16: Z17 draws the crucial distinction which allows Aristotle to explain how it is possible to give the λόγος τῆς οὐσίας of a thing, spelling it out into its στοιχεῖα, even though none of the στοιχεῖα are οὐσίαι existing prior to the thing and even though the οὐσία of the thing is not a στοιχεῖον and does not consist of the στοιχεῖα; then H applies this distinction to show how to state the οὐσία of a given thing and to show that only Aristotle's way of stating the οὐσία (and, in particular, not Plato's) can avoid the aporia. The discussion of Z17-H6 is not properly part of metaphysics, since Aristotle's way of stating the οὐσία of a thing gives no path to the ἀρχαί; but it belongs to the metaphysician to raise the aporia of Z10-16, in arguing against other philosophers' attempts to find the ἀρχαί in the parts of the λόγος of a thing, and so it also belongs to the metaphysician to solve the aporia, even though his own solution will not lead to the ἀρχαί.⁵

Our first concern, however, is with the argument of Z10-16. For ease of discussion I will break this text into two main parts, Z10-12 (discussed in the present section IIδ1) and Z13-16 (discussed in the next section IIδ2). One way to describe the difference is just that Z10-12 and Z13-16 are answering different aporiai, or different sections of the compound aporia B#6-9: Z10-12 address B#6 and the closely connected #7, and Z13-16 address B#8 (except insofar as it has already been addressed in Z7-9) and #9. (More specifically, Z10-11 pursue the "physical" branch of B#6, asking whether the μέρη ἐνυπάρχοντα of X are ἀρχαὶ καὶ στοιχεῖα of X, while Z12 pursues the "dialectical" branch of #6, whether the genera of X are ἀρχαὶ καὶ στοιχεῖα of X, together with #7, which raises difficulties for the "dialectical" answer to #6 by forcing the dilemma whether the highest or the lowest genera are more ἀρχαί. I will discuss Z10-11 in a first subsection, IIδ1a, and then turn to the shorter but highly controversial Z12 in a second subsection, IIδ1b.) But another and deeper way to describe the difference between Z10-12 and Z13-16 is that Z10-12 just discuss difficulties for the proposed physical and dialectical ἀρχαὶ καὶ στοιχεῖα of a thing, while Z13-16 raise more fundamental difficulties for the whole project, shared by physicists and dialecticians, of looking for the ἀρχαί as στοιχεῖα in the λόγος of a

⁵d note comparison with Burnyeat on H (perhaps this could be brought into the main text, but that seems better postponed till the beginning of IIε; a discussion of Burnyeat on the division of Z3-16 needs to be inserted in IIα3, can be more-or-less copied from the OSAP article, or from my review). note Burnyeat on Z17 as a new start, on Z17-H going together (this view shared also by Furth, perhaps others), on H as positive and systematic by contrast with Z (this view shared also by St. Thomas, perhaps also by Averroes, d check), on the distinction between κεφάλαιον and τέλος (note the aorist tense of the participle with κεφάλαιον, dq revise your translation)

thing. It is only the arguments of Z13-16 which justify the sweepingly negative conclusion at the end of Z16 rejecting any composition of οὐσίαι out of οὐσίαι, and it is only these chapters which force Aristotle to give his own alternative explanation of how we can give a λόγος τῆς οὐσίας (although without finding ἀρχαί in the strict sense) without falling into the aporia.

Πδ1α: Z10-11: physical στοιχεῖα

Z10 starts by stating its problem straightforwardly, without προοίμιον:

Since the definition is a λόγος, and every λόγος has parts, and as the λόγος is to the object, so the parts of the λόγος are to the parts of the object,⁶ the ἀπορία already arises [ἀπορεῖται ἤδη] whether the λόγος of the parts should be present [ἐνυπάρχειν] in the λόγος of the thing or not. (1034b20-24)

Aristotle develops the aporia, with arguments on both sides, through 1034b32; then he introduces the key to the solution, namely a distinction from Δ25 of senses of "part," 1034b32-1035a9, and on this basis offers a preliminary solution, 1035a9-b3. He then, after a clear break at 1035b3, offers an improved and perhaps corrected solution in the second half of Z10, 1035b3-1036a25; the main body or at any rate the first major portion of Z11, on the usual division 1036a26-1037a20,⁷ also seems to be intended as a further supplement and corrective to the first two solutions of the aporia. We need to understand, first how Aristotle sets out and solves the aporia in the first half of Z10, 1034b20-1035b3, and then what are the distinctive contributions of the second half of Z10 and of Z11.⁸

When in the statement of the aporia Aristotle says that "the ἀπορία already arises whether the λόγος of the parts should be present in the λόγος of the thing or not" (1034b22-4), the reference is back to B#6, or more specifically to the physical half of B#6, which asks whether the physical constituents of a thing X are also στοιχεῖα or parts-in-the-λόγος of X, that is, whether a correct scientific account of what X is will make reference to these constituents of X. (All the "parts" Aristotle discusses in Z10, even those that he will call "parts of the form," are physical or mathematical ἐνυπάρχοντα, rather than genus and differentia as parts of a dialectical λόγος, discussed only in Z12ff: this applies to the στοιχεῖα in the syllable, the segments in the circle, the finger/toe in the animal, the acute angle in the right angle, and even to the parts-of-soul in the animal.) In Z10, as in B#6, Aristotle is interested in whether the constituents of X are parts in the λόγος of X, not because he is interested in finding the λόγος of X for its own sake (or because he is interested in the essence of X and the λόγος expresses the essence), but because he wants to investigate whether the constituents of X are ἀρχαί of X, i.e. things existing prior to X and presupposed by X. Aristotle will make the interest in ἀρχαί explicit later in the chapter, notably at 1035a30-31, in a sentence of the form "Y_i are parts and ἀρχαί of X₁, but neither parts nor ἀρχαί of X₂"; at the beginning of the chapter he had asked whether the parts of X are prior to X, not whether they are ἀρχαί of X, but he takes the two formulations as equivalent.

It is important, however, to be clear about the logical structure of the aporia that Aristotle sets

⁶note question posed by Michel in Brussels about the reasoning here, see your paper for Annick's collection

⁷I will argue below for dividing Z11 into two roughly equal portions 1036a26-1037a5 and 1027a5-1037b7 rather than the more standard division into a main portion 1036a26-1037a20 and an appendix 1037a21-b7 {check whether you're consistent about this}

⁸speak of Z10α/Z10β or not? be consistent

out at the beginning of the chapter. Aristotle is often taken to be raising two different (although related) aporiai within the first few lines of the chapter: first (in the lines we have cited, 1034b20-24) whether the parts of a thing are included in its λόγος, and then whether the parts are prior to the thing. (Thus Ross, for instance, tries to divide Z10 into discussions of these two aporiai, and has it zigzagging back and forth between them.)⁹ When the "first aporia" is separated from the issue about priority or about ἀρχαί (and thus from B#6), it becomes easier to assimilate it to the investigation of essence in Z4-6; this is taken even further by scholars who (like Bonitz) paraphrase the "first aporia" as asking, not whether the parts of the thing are present in its λόγος, but which of the parts of the thing are present in its λόγος, that is, whether only the parts of the form of X or also the parts of the matter of X are present in the λόγος of X; and this would be equivalent to asking whether the definition of X is of the form alone or of the form-matter composite, or whether the definable essence is the form or the composite.¹⁰ But although Aristotle's solution to the aporia will involve a matter-form distinction (not the most obvious kind of matter-form distinction), we must be careful to avoid projecting this back onto the statement of the aporia itself and the arguments on both sides, which are not about matter and form but about parts; and the issue whether the parts are prior to the thing is raised, not as a second aporia, but in the course of the arguments addressing the first and only aporia.

The ἀπορία already arises whether the λόγος of the parts should be present in the λόγος of the thing or not. For [the λόγοι of the parts] are clearly present in [the λόγοι] of some things and not of others:¹¹ for the λόγος of the circle does not contain the [λόγος] of the segments but the [λόγος] of the syllable does contain the [λόγος] of the στοιχεῖα, although the circle too is divided into the segments just as the syllable is divided into the στοιχεῖα. Again, if the parts are prior to the whole, and the acute angle is a part of the right angle and the digit of the animal, then the acute angle would be prior to the right angle and the digit to the man, whereas it is the latter [i.e. the right angle and the man] that seem to be prior: for in λόγος the former are said [i.e. defined by λόγοι composed] out of the latter, and [the latter] are also prior in [the sense of] existing without the others [sc. and therefore they are prior in οὐσία as well as in λόγος]. (1034b22-32)

Here the example of the syllable is an argument that the parts of X are contained in the λόγος of X, the example of the circle is an argument that the parts of X are not contained in the λόγος of X, and the argument beginning "again, if the parts ..." is another argument that the parts of X are not contained in the λόγος of X, again turning on examples (the acute angle and the finger or toe). This argument is a reductio ad absurdum: if the parts are prior to the whole, then the acute angle would be prior to the right angle and the digit to the man or the animal, whereas in fact the man or animal is prior to the digit both in λόγος and in οὐσία (since the digit cannot exist except as part of a living animal, and since its being a part of a living animal will be included in its definition), and the right angle is prior to the acute angle at least in λόγος (since the definition of

⁹Ross seems here to be correcting Bonitz, who gives a too-simple division of the chapter into discussions of the two aporiai. FP have a comment on Ross' difficulties here

¹⁰cite Bostock, compare texts of Frede-Patzig and Ross cited above (is there duplication that I should eliminate?)

¹¹(i) or translate γάρ as "namely," γάρ in the sense of *fa-naqûlu* (ii) silliness in the secondary literature about whether it is merely the parts themselves or also their λόγοι that must be included in the λόγος of the whole (as if Aristotle were worried about an infinite regress; and if the λόγος of the whole mentions the parts, it can always be expanded to include their λόγοι)

acute angle mentions right angle, "an acute [angle] is one that is less than a right [angle]," Euclid Elements Idef12, just as the definition of circle-segment mentions circle, "a segment of a circle is the figure contained by a straight line and the circumference of a circle," Elements IIIdef6). Here Aristotle infers from "Y is contained in the λόγος of X" (or "X is said out of Y") to "Y is prior to X at least in λόγος" almost without noticing that he has passed from one formulation the other, as though the inference were too automatic to need explicit mention.

Although almost all commentators from Asclepius and the pseudo-Alexander to the present have taken "again, if the parts ..." as introducing a second aporia (Frede-Patzig actually "translate" the initial ἔτι δὲ ["again," "and further"] as "Ein weiteres Problem aber ist dies"),¹² it is very hard to say what the two opposed theses of this aporia would be, and what arguments would be supporting them. Perhaps the only hope is to take the theses to be "acute angle is prior to right angle [or digit to animal]" and its contrary, and to take "the parts are prior to the whole" as a premiss of an argument for the first thesis; but it is precisely the priority of parts to wholes which is in question (and has been since Aristotle asked whether the parts are contained in the λόγος of the whole), rather than the specific issues about angles and fingers; and there is no way to find within the present passage an argument for as well as against the thesis that the parts are prior to the whole.¹³ Rather, Aristotle takes the initial question, whether the parts are contained in the λόγος of the whole, to be already asking whether the parts are prior to the whole, at least in λόγος, and the arguments about the circle, the syllable, the angles and the digit all address this, and thus they speak for or against the thesis of the physicists in B#6 that the constituents of X are ἀρχαί and στοιχεῖα of X. But neither the physicists nor the dialecticians of B#6 are making subtle distinctions between priority λόγῳ and οὐσία: both sides take it for granted that the constituents of the λόγος of X will also be ἀρχαί of X in the strict sense, prior to X in οὐσία, and Aristotle has not yet indicated his disagreement. So it is entirely in order for Aristotle to cite Plato's-test arguments about priority in οὐσία, as well as arguments about priority in λόγος, in addressing the aporia; and in the larger context of Z the issue about priority in οὐσία, and thus about ἀρχαί in the strict sense, is more important, and the issue about priority in λόγος or about what are the parts of the λόγος of a thing is mainly a means to this issue about ἀρχαί.

The aporia is not about which parts of the thing are parts of its λόγος, but about whether the parts of the thing are parts of its λόγος. Thus although Aristotle will solve the aporia by saying that the segments are parts of the circle in one sense of "part" and the στοιχεῖα are parts of the syllable in another sense of "part", in stating the aporia he presents the circle and the syllable simply as two different kinds of things: there seem to be some things whose λόγοι contain their parts, and other things whose λόγοι do not contain their parts. Or rather: the physicists, by citing the paradigm case of the syllable, make it appear in general that the right way to give the λόγος of a thing is to go through its parts, while the dialecticians, by citing the counter-instance of the circle, make it appear in general that the λόγος of a thing can be given without mentioning its

¹²the only exceptions known to me are Code-Laks-Most (unpublished), who understand the text correctly, and Bostock, who wavers {does that mean I should qualify what I said about Bostock above?}

¹³the pseudo-Alexander says the second aporia is whether the parts are prior to the whole; Bonitz says the problem is which parts are prior to the whole; Ross sometimes says one, sometimes the other; Frede-Patzig say that the problem is more generally about how parts and whole are related with regard to priority and posteriority: "Das Problem stellt sich dadurch, daß einerseits im allgemeinen die Teile einer Sache ihr vorgeordnet zu sein scheinen, daß andererseits aber zumindest manchmal bestimmte Teile offenbar der Sache, deren Teile sie sind, nachgeordnet sind." But Aristotle says nothing corresponding to "im allgemeinen die Teile einer Sache ihr vorgeordnet zu sein scheinen": the thesis that the parts are so prior, at least in λόγος, is what is under investigation, and it cannot be cited as evidence of itself.

parts, and it is only because the two examples support contrary proposals for how all λόγοι should be given that there is a contradiction, and thus an aporia that needs to be solved. And although the two contending parties may seem simplistic in assuming that all definienda should be treated alike, Aristotle will in fact agree that there is a single kind of λόγος appropriate to all definienda, and proposes to distinguish different kinds of part rather than different kinds of λόγος or different kinds of object. Aristotle's chief aim in pursuing this strategy is to recapture from the physicists the paradigm case of the στοιχεῖα in the syllable, and, while conceding to the physicists that the (only true) λόγος of βα does mention β and α and that these are in one sense parts of βα, to deny that the parts mentioned in the λόγος are the kind of parts that the physicists are trying to establish as ἀρχαί, namely individual sensible material parts like Democritus' atoms.

While Aristotle's solution to the aporia turns on a matter-form distinction, Frede-Patzig oversimplify when they say that Aristotle's solution is to distinguish two senses of X (e.g. two senses of "horse"), one referring to the X composed of form and matter and one referring to the form of X alone, and to say that it is only the parts of a horse in the second sense of "horse" that are present in the λόγος of horse--and reasonably so, since it is only horse in the form-sense that is the essence expressed by the λόγος of horse (FP II,166). This is an accurate statement of Aristotle's final conclusion, but not of the line of thought that gets him there. Aristotle's solution turns not on a distinction between senses of "horse" or its analogue but on a distinction between senses of "part" which he has drawn in Metaphysics Δ: here, as so often in the Metaphysics, he is using a distinction from Δ as the key to an aporia from B. This distinction, like many distinctions in Δ, turns on an application of the concepts of matter and form, but it is a distinction between kinds of parts, and it is being applied in the interests of solving a problem from B about parts, not a problem about matter and form and essence.

Two closely connected chapters of Δ, Δ24 on the senses of "out-of" and Δ25 on the senses of "part," are relevant to Aristotle's argument in Z10, but he is drawing most immediately on Δ25: the back-reference is obvious when Aristotle says "ἡ πολλαχῶς λέγεται τὸ μέρος" (1034b32), then starts by citing, like Δ25, a purely mathematical sense of "part,"¹⁴ dismissing it to turn, like Δ25, to substantial rather than quantitative parts (ἐξ ὧν ἡ οὐσία ὡς μερῶν, 1034b34). In particular, Z10 is following Δ25 when it distinguishes parts of the matter from parts of the form as two different senses of part: "there is a sense in which the matter too is said to be a part of something, and a sense in which it is not, but [only] those things out-of which the λόγος of the form [is composed are said to be parts of the thing]" (Z10 1035a2-4), as Δ25 had listed among the senses of part "the things into which a whole is divided or out-of which it is composed, [where this whole is] either the form or what has the form: so that of the bronze sphere or bronze cube the bronze (and this is the matter in which the form is) is a part [sc. as something out-of which what has the form is composed], and the angle is also a part [sc. as something out-of which the form is composed]" (1023b19-22, cited and discussed in IIα3 above). As we saw in IIα3 above, Δ24 and Δ25 together help to develop this peculiar sense of a "part of the form" of a thing, and to support the conclusion of Z10 that only the parts of the form of X belong in the λόγος of X. If we simply start from a naïve sense of "the form of X" and a naïve sense of "part" and put them together, then while we might emerge with some concept of a "part of the form of X" (though it is not obvious that forms are the sorts of things that can have parts at all, except

¹⁴Z10 1034b33's first τρόπος, "τὸ μετροῦν κατὰ τὸ ποσόν", is Δ25's second τρόπος (τὰ καταμετροῦντα τῶν τοιούτων [= ποσῶν], 1023b15-17), Δ25 having first admitted a broad sense of any part of a quantity whether a submultiple or not, 1023b12-13.

perhaps their genera), it would be hard to imagine that these parts of the form could easily be mistaken for parts of the matter, as Z11 says that they are. But we can fill out Δ25's statement that the parts are "the things out of which [ἐξ ὧν] either the form or what has the form is composed" (as cited above, in part and rearranged, and cp. Z10 1034b34 cited above) from Δ24, which says that some things are "out of" [ἐκ] others "as the form is out of the part, the way man is out of biped and the syllable is out of the στοιχεῖον: this is different from the way the statue is out of bronze, for the composite οὐσία is out of sensible matter, but the form is also out of the matter of the form" (Δ24 1023a35-b2, cited Πα3 above). The difference between the parts of the form and ordinary material parts can thus be explained through the difference between the "matter of the form" and ordinary "sensible matter." But this terminology may be misleading: the crucial difference is not that sensible matter (like the bronze in relation to the statue) is sensible, but rather that it is a merely accidental ὑποκείμενον of the form, something that the form merely happens to be predicated of on this occasion, whereas the "matter of the form" is the per se ὑποκείμενον of the form, in the sense in which number is the per se ὑποκείμενον of odd. So one and the same thing can be what Aristotle is calling the "sensible matter" of one thing and the "matter of the form" of another: nose is the sensible matter of concave (in some instance), but it is the matter-of-the-form of snub. And likewise the genus is matter-of-the-form of the species, as animal is matter-of-the-form of man,¹⁵ since for a man to be is just for an animal to have some predicate (say, biped), where animal is the per se ὑποκείμενον of this differentia-predicate and thus also of the composite man. And, in Aristotle's other example, the syllable βα is out-of the στοιχεῖον β, and equally out-of the στοιχεῖον α, in such a way that the β and the α are collectively the matter of the form of βα, since for βα to be is just for β-and-α to have a predicate of which β-and-α is the per se ὑποκείμενον, namely "arranged with the β before the α." So the στοιχεῖα β and α, as "parts of the form" of the syllable βα, are parts of the matter of the form of the syllable βα, i.e. parts of the matter which is the per se ὑποκείμενον of βα; and so it is not strange if it is unclear in some cases whether something is a part-of-the-form or a merely material part of some whole, because it is unclear whether, say, flesh and bones are to man as nose is to snub or merely as nose is to concave.

Aristotle is applying the Δ24-25 distinction between these two senses of part at Z10 1034b32ff to solve the aporia, and in particular to neutralize the case of the στοιχεῖα of speech, the paradigm case which the physicists of B#6 had used to argue that the στοιχεῖα and ἀρχαί of things in general are their material constituents (see Ιβ3 above, also Πα3). He concedes to the physicists that β and α are parts of the λόγος of βα, and that they are, in one sense, material constituents of βα; but they are parts of the form of βα, or parts of the matter of the form of βα, not parts of its sensible matter, and so they do not allow the physicists to argue that individual sensible material parts are ἀρχαί as parts in the λόγος of a thing. Aristotle does not simply concede the case of βα to the physicists, and say that syllables are the sorts of things whose λόγοι mention their parts and circles are the sorts of things whose λόγοι do not mention their parts. Instead of saying that there are two kinds of wholes, wholes whose λόγοι mention their parts and wholes whose λόγοι do not mention their parts, Aristotle says that there are two kinds of parts of any given thing, namely parts of the form, which should always be mentioned in the λόγος, and parts of the ("sensible") matter, which should never be mentioned in the λόγος, so that "in a certain way not even all the στοιχεῖα of the syllable are present in the λόγος, e.g. these

¹⁵Aristotle's example here is actually that biped is part-of-the-form, or matter-of-the-form, of the species man. Given what he says elsewhere about the roles of genus and differentia, animal is a less problematic example than biped for the matter-of-the-form of man.

waxen [στοιχεῖα] or the [στοιχεῖα] in the air: for even these are already a part of the syllable as sensible matter" (Z10 1035a14-17, invoking the Δ24 concept of "sensible matter").¹⁶

So Aristotle's judgment on the thesis of the physicists, that the constituent στοιχεῖα of X are parts of the λόγος of X and are thus ἀρχαί of X, depends on how these στοιχεῖα are described. Aristotle will say in each case that the constituent στοιχεῖα of X are "the things into which X perishes" (like flesh and bone if X is man, or the segments if X is line or circle), and in each case he will ask, as if equivalently, whether the things into which X perishes are parts of the λόγος (or "parts of the οὐσία") of X, or whether these things are ἀρχαί of X (or whether X is "out of" them). At a first pass, Aristotle's answer seems to be this: the individual material constituent (this-α-here) is not part of the λόγος of the syllable βα, and so has no claim to being an ἀρχή of βα, but the same material constituent under a more universal description (the letter α as such, which is "matter of the form" of βα) is indeed a part of the λόγος, and an ἀρχή, of βα; indeed, the part so described belongs in the λόγος, not just of the matter or the matter-form composite βα, but of the form of βα. (This will be important for the larger aporia B#6, since the dialecticians there argue that the genera will be ἀρχαί of definitions and therefore also ἀρχαί of the objects of definition and science, namely the forms. So if β is an ἀρχή of the form of βα and not merely of the matter-form composite βα, the issue between the physicists and the dialecticians cannot be resolved simply by saying that the physicists' ἀρχαί are ἀρχαί of composites and the dialecticians' ἀρχαί are ἀρχαί of forms.) But even though this-α-here, which is a purely material constituent, is not part of the λόγος of βα-as-such, it seems that it might still be part of the λόγος of this-βα-here, and so have a claim to be an ἀρχή of this-βα-here. Certainly waxen-α, although it is merely sensible matter of βα, is part of the form of waxen-βα and belongs in the λόγος of waxen-βα, and so it should be an ἀρχή of waxen-βα although not of βα-as-such; and so by analogy it seems that this-α-here should belong in the λόγος of, and be an ἀρχή of, this-βα-here. Indeed, this is Aristotle's provisional solution:

The λόγος of such [purely material] parts is present in [the λόγοι] of some things, but in others it should not be present, unless [the λόγος] is of the composite [συνειλημμένον, lit. "the thing taken-together," sc. with the matter]: for on account of this some things are out of, as ἀρχαί, the things into which they perish, and others are not. So those things which are composites, the-form-and-the-matter, like the snub or the bronze circle, perish into the same things [that they are composed out-of as ἀρχαί],¹⁷ and the matter is a part of them; but those things which are not compounded with the matter, but are without matter, whose λόγοι are of the form alone, either do not perish at all or do not perish in this way; so that these [material constituents into which something perishes] are ἀρχαί and parts of those [composite] things, but are neither parts nor ἀρχαί of the form. (1035a22-31)

¹⁶Aristotle is in some embarrassment about why the circle-segments are not included in the λόγος of the circle, since the circle-segments are parts of the geometrical extension which is the matter of the form, and so it seems that they should be parts of the form (Aristotle says that although the circle-segments are merely the matter in which the form of circle occurs, they are "closer to the form than the bronze is when roundness occurs in bronze," 1035a13-14). Perhaps the best thing to say is that X is the matter-of-the-form of Y if X is the essential ὑποκείμενον of Y, and that this is sensitive to how X is described; so it is possible that "two semicircles" are not the appropriate matter of circle, even though the two semicircles are coextensive with the extension which is the appropriate matter of circle.

¹⁷reading the manuscripts' εἰς ταῦτα as εἰς ταῦτά (Jaeger εἰς αὐτά; Ross, Christ keep the transmitted text)

This solution would entail the elegantly simple conclusion that in each case, if Y is a part of X, then Y belongs in the λόγος of X and is an ἀρχή of X, as long as we keep track of whether by "X" we mean the composite or the form. It would also suggest a solution to the larger aporia B#6, by peacefully demarcating between the territory of the dialecticians (the form) and the territory of the physicists (the composite): the dialectician gives a λόγος of the form and the physicist gives a λόγος of the composite, and since these are λόγοι of different things it is no surprise that one of them should mention the (sensible) matter and the other should not, as the sensible material parts are parts and ἀρχαί of one thing and not of the other. But ultimately Aristotle does not find this peaceful solution acceptable, and in the second half of Z10, 1035b3-1036a25, he seriously qualifies the provisional results of the first half (he expresses the transition at 1035b3-4, in standard Aristotelian terms, as passing from what is true but not clear to a clearer account, but his results are more revisionist than this would suggest); and Z11 will add still further qualifications.¹⁸ All of these qualifications are designed to support Aristotle's ultimate solution to B#6, which will not be worked out in full detail until the end of Metaphysics H, but which turns on denying that the physicist and the dialectician can give two different kinds of λόγος of X (there is only one kind of scientific definition of a natural thing, the "good" physical definition which states the form as well as the matter, and which mentions only the essential constituents and not the "sensible" material parts; and this will coincide with the "good" genus-differentia definition), and which denies that the parts of either a physicist's or dialectician's λόγος are prior in οὐσία to the definiendum. In particular, Aristotle wants to deny that the individual constituents of X enter into any kind of λόγος of X or are prior to X in λόγος, and he wants to deny that any kind of constituents of X are prior to X in οὐσία. On both points, the first half of Z10 leaves a misleading impression, which must be corrected.

Aristotle starts by recalling the examples from the beginning of Z10 which seemed to work against the claim of the physicists (while the example of the letters in βα seemed to support the physicists), namely the acute angle and the circle-segments and the digit, which are defined through their wholes rather than vice versa. He concentrates on the example of the animal, which is paradigmatic for a natural definiendum. The impression from the first half of Z10 would be that things like flesh and bones, into which the animal perishes, are parts of the composite animal, and are prior to it both in λόγος and in οὐσία, but that they are not prior to the form of the animal. Indeed, they must be posterior to the form of the animal, where this form is the soul, since (he argues at 1035b13-18, recalling Parts of Animals I,1) neither the whole animal body nor any of its parts can be defined without reference to its ἔργον, which depends on sensation, or on some other such activity of some part of the soul.¹⁹ Presumably this would show that the parts of the animal body are posterior to the soul not only in definition but also in οὐσία, since they depend for their being what they are on the presence of the soul; and it would also show that the parts of the animal soul are prior to the composite animal (so 1035b18-20). However, Aristotle now qualifies the assertion that the parts of the animal body are prior to the composite animal:

¹⁸speak of Z10α/Z10β or not? be consistent. note 1035b4 "ἐπαναλαβόντες" (again a standard Aristotelian expression, this or ἐπανιτέον etc.): this is made more precise by the fact that we go back to the same examples of parts and wholes that were given at the beginning of Z10, and think through them more precisely

¹⁹textual issues 1035b16-17. FP may be right in keeping EJ's ἐκάστου ... τὸ μέρος instead of Ab and ps-Alex ἐκάστων ... τὸ μέρος. Jaeger's deletion of τὸ μέρος, while bold, is not absurd as FP suggest and would not have the implication they describe. the implication would be rather that no animal can be defined without reference to the soul and to the parts of the soul: Aristotle would be arguing, both that the soul is the οὐσία-as-essence of the animal, and that the parts of the soul are prior to the composite animal (and not, right at the moment, making any points about the parts of the body). but at the end of the day I think ἐκάστων ... τὸ μέρος is most likely to be right

"they are prior to the composite in a way, but in a way not, for they are not able to exist when they are separated [from the whole composite animal]: for it is not a digit in any condition that is a digit of an animal, rather a dead digit is homonymous [i.e. is not the animal-part of that name]" (1035b22-5).²⁰ This is of course a standard Aristotelian point, already mentioned in the examples at the beginning of Z10, but Aristotle uses it now to show that since by Plato's test the animal composite is prior in οὐσία to its parts (except perhaps parts like the heart, since the animal can no more exist without the heart than the heart without the animal), we must revise the apparent conclusion that flesh and bones are prior to the composite animal; we must presumably also revise the assertion that the animal composite perishes into flesh and bones, since the "flesh" and "bones" of the dead animal can be flesh and bones only homonymously (flesh for Aristotle is an organ or medium of the sense of touch).

Thus far it seems that the only parts of the animal that are parts of the form, in the way that β and α are parts of the form of $\beta\alpha$, will be the parts of its soul. Indeed, Aristotle will stick with this assumption throughout Z10 (unless the example of the heart, 1035b25-7, is meant as analogous to the letters in the syllable), revising it only in Z11. Continuing with this assumption, Aristotle makes a side-comment intended to contrast his view with Plato's: "man, and horse, and the things which are in this way [said] of the particulars, but universally, are not οὐσία but a composite out of this λόγος and this matter, [taken] as universal; individually, Socrates is already [composed] out of the ultimate matter, and likewise for the other [individuals falling under the universal]" (1035b27-31). Aristotle has just said that the form of an animal is its soul. Plato, by contrast, thinks that the form which Socrates participates in and which makes him a human being, is not his soul, but rather something named by the common noun "man," what Socrates has in common with Alcibiades and Xanthippe. While Plato is notoriously unclear about how this form of man is to be described, presumably it has hands and feet in at least as strong a sense as it has a soul: the forms are the objects of definition, and the Platonic definition of man mentions the possession of two feet and no wings but says nothing about soul. So if Plato were right about what the form of a human being is, the parts of the form would have to include each of the anhomoeomerous parts of the body taken as universals (not this left hand, but left hand in general); and these would presumably be prior to man-in-general, who is in turn prior to each individual human being. This is not obviously absurd (it turns on taking the form of a kind of animal to be something like a geometrical form--the eight angles of a cube are unproblematically parts of its form), but from Aristotle's point of view it shows that Plato's procedure of definition, with its implications about priority and ἀρχαί, is all too close to the procedure of the "bad" physicists who define things merely by enumerating their material constituents. Aristotle will agree with Plato that in grasping the λόγος of a natural thing we must in some sense think its form without its matter (although this will be qualified by what he says in Z11), but we do this, not by thinking away the individuating differences to perceive the common bodily structure, but by grasping the ἔργον of the thing (for an animal, the activities of its soul); this will involve the parts of the thing's body only so far as we can rederive them as essential instruments of its ἔργον.

The main further point made in Z10 (1035b31-1036a12) is that the individual constituents of X do not enter into any kind of λόγος of X (and therefore that there is no ground for saying that they are prior in λόγος to X): if they entered into any kind of λόγος of X, it would be a λόγος of this individual X, and there is no λόγος of this individual X. Thus while the physicist can give a λόγος of X (say, of horse), and while this λόγος will include constituents of X, indeed in a sense material constituents of X, they will be what Δ24 calls "the matter of the form," which will

²⁰note minor textual trouble

be matter at whatever level of generality is appropriate for grasping X, but never an individual matter. "There are 'parts' both of the form (by form I mean the essence) and of the composite out of the form and the matter,²¹ but only the parts of the form are parts of the λόγος, and the λόγος is of the universal" (1035b31-1036a1). Aristotle says as if equivalently (1036a2-5) that there is no definition of the individual and that there is no definition of the composite, i.e. of what contains matter: presumably this means what the previous passage called "the ultimate matter" out of which Socrates is composed, rather than the matter in man taken universally (1035b27-31, cited above). Both sensible composite individuals and "intelligible" (i.e. mathematical) composite individuals are not definable,

but are known along with [μετά] sensation or intellection, and when they have departed from actuality it is not clear whether they exist or not, but they are always said/formulated and known through the universal λόγος; matter is unknowable in itself. (1036a5-9)²²

This recalls a Platonist argument from B#8: "if there is nothing beside the individuals [or 'beside the composite,' 999a32-4], nothing will be intelligible, rather all things will be sensible, and there will be no knowledge [ἐπιστήμη] of anything, unless someone calls sensation 'knowledge'" (999b1-4).²³ The underlying reason why it is inappropriate to call sensation "knowledge" is that knowledge is a persistent ἔξις, and thus must be of an equally persistent object, whereas sensation (so far as it is a cognition with a determinate content, and not a bare power) is a momentary occurrent cognition, which guarantees only that its object exists and has this sensible quality at the moment of the sensation. In the Z10 passage when Aristotle says "when they have departed from actuality" he seems to mean, not when they no longer actually exist, but when they have departed from the actuality of our sensation or from their actual presence to our senses (or to some quasi-sensory power for grasping mathematical individuals): if we ever had ἔξις-knowledge of these individuals, we would still have the knowledge of them when they have "departed," but we do not. What we do have is the ἔξις-knowledge expressed in the λόγος, whose content is the universal X rather than any individual X. Of course Aristotle does not endorse the Platonic conclusion that this knowledge requires a universal existing "beside" the individuals in the sense of existing separately from them, and he also will not say without qualification that the individual sensible composite is not an object of intellectual knowledge: rather, as M10 says,²⁴ while the ἔξις of grammatical knowledge has its object (for instance) the type α, an ἐνέργεια of this ἔξις can have as its object an individual α which it recognizes as falling under the type. But of course this ἐνέργεια of intellectual knowledge must be triggered by some sensory or quasi-sensory intuition of the individual (this is what Aristotle seems to mean here by being known μετά sensation); and, what is important here, the composite individual in actualizing the ἔξις-knowledge adds no knowable content over and above the universal knowable content of the ἔξις-knowledge, no further individuating λόγος-constituent that could be added to the universal λόγος. Rather, "the matter is unknowable in itself," not

²¹text issue at 1035b33. deleting ἀντῆς as Jaeger suggests may be right

²²cross-reference to discussion of Z15 parallel, 1039b20-1040a7 {should be specified more narrowly}, discussed later in this chapter; also to discussion in Iγ2d of νοεῖν τι θαρρέντος.

²³this argument seems not to have been covered in Iβ3, but it should be. in general, in Iβ3 and thereabouts in summarizing B, while the non-commentarial style is good, you risk leaving out arguments that you may want to come back to later; d think how to balance these concerns. do I discuss this passage anywhere else (maybe on M10?)

²⁴cross-reference

because it constitutes a barrier to knowability, but simply because it contains no further knowable content of its own; and this is what Aristotle needs for his argument here that the individual material constituents are not parts of the λόγος of the thing.

Aristotle adds in the last lines of Z10 (1036a12-25) a summary of the results of Z10 on part and whole, prior and posterior, which mostly says that things are more complicated than we would have guessed from the provisional conclusion after the first half of the chapter: we must distinguish which sense of "part" of X, and which sense of "X" (if X is "animal," the composite or the soul), and presumably we must also distinguish which sense of "prior," in λόγος or in οὐσία. The most important new qualification seems to be that "such things as are parts of the λόγος, and into which the λόγος divides, these are prior, either all or some of them" (1035b4-6): trivially, all of the parts of the λόγος of X are prior to X in λόγος, so Aristotle must mean that we cannot in all cases infer from priority in λόγος to priority in οὐσία. Aristotle will add various further conclusions and qualifications in the long (and not especially clear) summary of what has been determined and what has yet to be determined that takes up the second half of Z11 (on my preferred division, 1037a5-1037b7; it is more common to divide Z11 between 1037a20 and a21, see discussion below). But by far the most important addition and qualification to Z10 comes in the discussion in the first half of Z11 (1036a26-1037a5) of the aporia "which [things or parts] are parts of the form and which not, but of the thing-taken-together [with the matter]" (1036a26-7), that is, of which things are "matter of the form" of X and which are merely "sensible matter" of X, taking as the main examples human beings, lines and circles. As Aristotle says, it will be important for the practice of definitions, since as we have just seen in Z10, "definition is of the universal and of the form" (a28-9). The point is not so much that I may be mistaken about whether X is universal or individual, or matterless or enmattered, and so may try to define something that cannot be defined, or fail to define something that can and should be defined; rather, if I do not know whether Y is a part of the form of X or merely something material or individual that adds no further component to the λόγος of X, I may define X wrongly by including something that should be excluded or vice versa. There is a real danger of going wrong, and indeed some provisional conclusions of Z10 are misleading and need to be corrected. Z10 had assumed that, while β and α are parts of the form of βα, and are therefore prior to βα in λόγος, flesh and bone are merely things into which an individual human perishes, and are matter and parts of the matter-form composite but not of the form. Already in Z10 it had become clear that there was something wrong with this assumption, since the flesh and bone into which a human being has perished are only homonymously flesh and bone; in the first half of Z11 (1036a26-1037a5) he systematically reexamines the assumption about the relation of man to flesh and bone, now credited to a named Platonist opponent, Socrates the Younger.²⁵

Aristotle starts by stating the problem of discerning what parts of X are material, and should therefore be discarded from its λόγος, in clearly Platonist terms:

in things which we can see coming to be in things differing in species, like circle in bronze and stone and wood, bronze and stone clearly appear to be no part of the οὐσία of circle, since it is separated [χωρίζεσθαι] from them; but nothing prevents the things which are not seen separated from being similar to these, so that even if all the circles that had been seen were bronze, nonetheless the bronze

²⁵references on Socrates the younger: Sophist, Statesman, 6th Letter (possible relation with Aristotle, if the 6th Letter is authentic); note the two EE and one MM ref to "Socrates the elder" (πρεσβυ- or γέρων)

would be no part of the form;²⁶ but it is difficult to abstract this in thought [ἀφελεῖν τῇ διανοίᾳ]. So too the form of man is always seen in flesh and bones and such-like parts: so are these also parts of the form and of the λόγος, or not, but [just] matter, but on account of their not coming to be in other thing too we are unable to separate them. (1036a31-b7)

When Aristotle says later that "the comparison [παραβολή] in the case of animal, which Socrates the younger used to make, is not right [οὐ καλῶς ἔχει], for it leads away [ἀπάγει] from the truth, and makes one suppose that it is possible for man to exist without the parts, as circle can without the bronze" (1036b24-8), the comparison is the analogy "man is to flesh and bones and circle is to bronze," together with the thought-experiment "what if all the circles we had seen were bronze?," which supports the suggestion that man too may be able to exist without the flesh and bones. It is likely enough that Aristotle has taken the word ἀπάγειν from Socrates the Younger, who had designed this thought-experiment in order to "lead our soul away" from its usual habits of thought, and to separate in thinking things that are always combined in sensation: this is the kind of task of thinking that Plato describes in Republic VII, where "sight has seen great and small not separated but as something confused," and it is the task of thought to see them "not confused but distinguished" (524c3-8).²⁷ Aristotle devotes the first half of Z11 to undermining this comparison, arguing that it "leads away" from the truth in trying to separate what cannot be separated, since "man" cannot be thought in a scientifically precise way without flesh and bones, and there is no scientific λόγος of man that does not refer to flesh and bones.²⁸ The basic point is familiar from Physics II,2 and Metaphysics E1 (discussed in Iβ2c and Iγ1a above), where the forms of natural things are said like snubness, and so cannot be scientifically grasped or defined without their correlative matter. Thus the mathematician reasons about the spherical surfaces which are boundaries of natural bodies, "but not inasmuch as each of them is the limit of a natural body ... for which reason also he separates them; for they are separable in thought [or by thought] from motion, and it makes no difference, nor does any falsehood arise when we separate them. And those who say that there are ideas do the same thing unawares, for they separate natural things, although these are less separable than mathematical, as would be clear if one tried to give the definitions, both of these things and of their attributes: for odd and even and straight and curved, and number and point and figure, will still exist even without motion, but flesh and bone and man will not: these things are said like a snub nose and not like curved" (Physics II,2 193b31-194a7). Indeed, while the scientific λόγος of any natural things will refer to motion and to moved matter in general (because a nature is always a principle of some natural motion), the λόγος of any kind of animal according to the program of De Partibus Animalium I will have to refer to its more specific matter, namely its organic parts (and the λόγος of soul refers to "organic body," and the λόγος of any specific kind of soul will specify the organs); likewise the λόγοι of the organic or anhomoeomerous parts will refer to the homoeomerous parts which are their necessary matter (see Physics II,9 for the "necessary" component of a λόγος), and these in turn to ratios of the four simple bodies; the attempt to define any of these kinds of natural bodies, or any soul except perhaps purely rational soul, apart from their appropriate matter, "leads away from the truth" as mathematical abstraction does not, and

²⁶rejecting Jaeger's addition of μέρος, which should simply be understood, as in a33; various minor textual problems

²⁷check for consistency of translation, you may have translated the same passage in discussing Plato on great and small and the indefinite dyad, probably in Iγ2c

²⁸note, with Burnyeat, against FP's minimalistic reading of οὐ καλῶς ἔχει.

blocks us from giving a scientific λόγος.

In Z11 in particular, the main strategy used against Socrates the Younger is not a refutation but rather the construction of unacceptable parallels, as in On Ideas and Metaphysics MN, and in the infinite regress of essences threatened in Z6: if the Platonist opponent agrees that separating the form from the matter in these parallel cases is absurd, the burden is on him to explain why the case of man and flesh and bones is disanalogous to these and analogous to circle and bronze instead.

Since it seems that this [sc. that although we have never observed X without Y, Y is merely the matter in which X happens to occur and is not in the λόγος of X] is possible, but it is unclear when,²⁹ some people raise aporia already even about the circle and the triangle, [saying] that they ought not to be defined by lines and the continuous, but that all these things too are said similarly, in the way that flesh and bones are of man and bronze and stone of statue;³⁰ and they reduce everything to numbers,³¹ and they say that the λόγος of line is the λόγος of two. And of those who say that there are ideas, some say that the dyad is the line-itself, others that it [apparently the dyad, see discussion below] is the form of the line: for in some cases the form and that of which it is the form are the same, like the dyad and the form of the dyad, but not in the case of the line. And it results both that there will be one form of things whose forms are evidently different (which resulted also for the Pythagoreans), and that it is possible to make one thing itself the form of all things {or, perhaps: to make the one-itself the form of all things},³² and the rest not forms; but in this way all things will be one. (1036b7-20)

We have here a series of stages in a sorites, leading finally to the proposition that just one thing (perhaps the one-itself) is the form or essence of everything, so that, say, the definition of horse will apply both to Bucephalus and to the One, and Bucephalus will differ from the One not by being a horse, or by being a horse in a different sense, but simply by having a particular kind of matter. Socrates the Younger, in proposing that the essence of man or horse does not depend on flesh or bones, and that the definitions of man and horse apply equally to fleshless and boneless things, gives a start to the sorites, but he does not think that man and horse have the same definition: presumably he thinks that the definitions of man and horse describe different geometrical figures, each of which can be realized either in flesh and bones or in something else. But if the definition of man can abstract away from its appropriate matter, why shouldn't the definition of a geometrical figure such as triangle also abstract from its appropriate matter, magnitude (or magnitude of the appropriate dimension)? As Aristotle points out, some people had in fact taken this step, meaning the Pythagoreans (contrasted with "those who say that there are ideas" in the next sentence) who say that triangle is the triad, since three is the first triangular number: as Aristotle says explicitly about the Pythagoreans, "they defined superficially, and they thought that whatever the given term belonged to [= was predicated of] first was the οὐσία of the object, as if someone were to think that the double and the dyad were the same thing because the

²⁹FP raise trouble about the phrase, but I can't immediately see what their worries are, go back to this

³⁰or circle, note on the manuscripts

³¹note on ἀνάγειν, note esp. the phrase ἀνάγειν εἰς τὰς ἀρχάς. reducing things to numbers (a phrase Aristotle uses elsewhere, notably H3) can mean either showing how they are derived from numbers or showing that they are identical with numbers. note here the use of the phrase in Theophrastus' Metaphysics.

³²or, Frede-Patzig, "to make this [i.e. the one thing which is a form of several things] a single form of all things"

double belongs first to the two. But doubtless [ἴσως] being double and being dyad are not the same: if not, one thing will be many, which did indeed result for them," i.e. if the same number is the first instance of X and also the first instance of Y, they will define X and Y as if they were the same thing (Metaphysics A5 987a22-7). So if being human is having a certain shape, like triangle but more complicated, then being human could be abstracted from geometrical matter too and identified with the first human-number, which is precisely what Aristotle attributes to the Pythagorean Eurytus in N5.³³ But, Aristotle suggests, the Platonists, whose dialectical training supposedly makes them more accurate definers than the Pythagoreans (so A6 987b29-33), come out no better: either they say that the dyad simply is the line-itself (presumably the view of those who believe that the first lines are indivisible, and who "say that there are indivisible magnitudes because [otherwise] the triangle-itself will be many," GC 316a11-12), or they say that the dyad, if not itself a line, is still the form in which lines participate (this is the view of those who "make magnitudes out of matter and a number, lengths out of the two, surfaces doubtless [ἴσως] out of the three and solids out of the four, or from other numbers, it makes no difference," N3 1090b20-24, using the numbers as formal causes of the different types of magnitudes, since the forms are numbers and the magnitudes, if they are not numbers, are posterior to the forms and must be formally caused by numbers). Either way, the dyad is the essence of line, whether because the dyad can be a line even without the continuous as its matter, or because, although all lines contain the continuous as their matter, their essence is simply their form, the dyad (so the Z6 regress of essences would not come to a stop with the line, since this is enmattered, but only at the next stage with the dyad). But according to the Platonists again, the one is the formal cause of the numbers (while these are the formal causes of everything else, A6 987b20-22 and A7 988b4-5, and thus in particular of the magnitudes if these are distinct from numbers); so if it is legitimate to leave out the matter, and say that what line is is the dyad, it is equally legitimate to say that what this is is the one, so that if we pursue the τί ἐστὶ question to the end, all things will have the same essence: which is, for Aristotle, the very the worst of the senses that can be given to Parmenides' thesis that what is is one, entailing the "λόγος of Heraclitus" that to be a man and to be a horse, to be good and bad, to be good and not good, would be the same (Physics I,2 185b19-25).

If, as the Platonist should agree, this conclusion is absurd, we must stop the process of reduction at some stage, and there is no reason why we should allow man to be reduced to a shape, but not a shape to a number or a number to the one. Aristotle takes it as clear that the process should in fact be stopped at the beginning:

Reducing all things in this way and abstracting the matter is a vain effort [περίεργον]: for doubtless [ἴσως] some things are this-in-this or these-disposed-thus. And the comparison in the case of animal, which Socrates the younger used to make, is not right, for it leads away from the truth, and makes one suppose that it is possible for man to exist without the parts, as circle can without the bronze. For animal is something capable of sensation [emending the manuscripts' αἰσθητόν to αἰσθητικόν with FP], and cannot be defined without motion, and

³³"nor has it been determined in which way numbers will be causes of οὐσίαι and of being, whether as ὅροι [boundaries? definitions?], as points [are boundaries of, and therefore enter into the definitions of, each type of] magnitudes, and as Eurytus used to arrange what is the number of what, e.g. this number for man and this for horse, making likenesses with pebbles of the shapes of plants, like those who set the numbers in shapes [i.e. represent them as 'figured numbers'], triangular and square" (1092b8-13). d cite Theophrastus parallel (and Archytas source)

therefore not without the parts disposed in a certain way. For it is not a hand anyhow-disposed that is a part of a human being, but one that is capable of performing its work [ἔργον], thus one that is ensouled: when it is not ensouled it is not a part. (1036b22-32)³⁴

It is possible that the manuscripts are right and that Aristotle says "for animal is something sensible [αἰσθητόν] and cannot be defined without motion," but if so this is bare assertion of what is in contention; if Frede-Patzig's ingenious emendation is right, then Aristotle has a good argument.³⁵ It is indeed part of the definition of animal (what distinguishes animals from plants) that an animal is capable of sensation, and sensation and the other activities of an animal require organs (and each species of animal will be defined through its characteristic arrangement of organs), and these require the appropriate natural motions in order to perform their work. It is often thought that Aristotle's argument here slightly misfires in insisting that the parts must be "disposed in a certain way" and ensouled as well as moved, since his Platonist opponents would if anything overemphasize the soul, and Aristotle should be showing against them that man requires "the parts" such as hands, not that these hands must be appropriately disposed and ensouled.³⁶ But if, as I have suggested, Socrates the Younger thought that being human, like being a circle, is being shaped in a certain way, and that man can exist without flesh and bones as circle can exist without bronze, then Aristotle's argument is very much to the point. Socrates the Younger would be saying that man can exist without homoeomerous parts such as flesh, not without structural parts such as hands. Aristotle agrees that the λόγος of man refers to hands, but says that merely hand-shaped things, like the hands of a statue or a corpse, are only equivocally hands: the hands that are in the λόγος of man are organs, instruments of the soul's activity, and so they must be ensouled (as mathematical "hands" are not), and so must have the appropriate natural motions, and so must have the appropriate natural matter and not merely geometrical matter. And the thesis that the appropriate matter must be mentioned in the λόγος of the thing applies also to the other examples in the sorites such as lines and triangles, although here the appropriate matter is different: the λόγος of triangle will contain, not simply three, but three lines and three angles. (But, as Aristotle insisted at the beginning of Z10, and repeats here [Z11 1036b32-1037a5], the λόγος of circle will not contain the semicircles, any more than the λόγος of right angle contains acute angle, and this even though the semicircles are intelligible rather than sensible; they are still not part of the form but of what has the form. Presumably two-dimensional extension and center and circumference are parts of the form, being cited in the definition of circle at Euclid Idef15).³⁷ Aristotle is not precisely rejecting the thesis that three is the form of triangle or two of line. He speaks of an issue as to whether line is "dyad in length or dyad" (H3 1043a33-4), and while it is clear from Z11 (and would be obvious anyway) that he

³⁴I think I've translated the last sentence elsewhere, d coordinate translations

³⁵and note Z10 1035b18, cited by FP. but note the other interpretation and what it can base itself on: the opposition to circle with νοητὰ ὄλη, the semicircles οὐκ αἰσθητά. FP's first objection to this is not serious. their second point has something in common with my argument, but starts from the assumption that the form of the animal is the soul, which I do not think Socrates the Younger would have conceded ... probably also too impressed by Ackrill issues, but d think about this ... added note: I think Herb Granger has an article defending the transmitted text here: in OSAP? I think I've got the offprint in Montreal

³⁶Ross; FP don't seem to say much here

³⁷Κύκλος ἐστὶ σχῆμα ἐπίπεδον ὑπὸ μιᾶς γραμμῆς περιεχόμενον [ἢ καλεῖται περιφέρεια], πρὸς ἣν ἀφ' ἐνὸς σημείου τῶν ἐντὸς τοῦ σχήματος κειμένων πᾶσαι αἱ προσπίπτουσαι εὐθεῖαι [πρὸς τὴν τοῦ κύκλου περιφέρειαν] ἴσαι ἀλλήλαις εἰσίν. {compare citations in IIE2 and in the chapter for Annick's volume--I cite it in English translation, and note that Aristotle himself gives a shorter and less precise formulation, which I cite in IIE2}

denies that it is just dyad, there is nothing in the H3 passage to suggest that he denies that it is dyad in length, and he might well accept this formula if it were spelled out as "length [or magnitude] bounded/determined by two points" or the like, and "dyad in length" seems to be an example of what he means in Z11 by saying that "some things are this-in-this." Aristotle might also agree that in this formula, dyad is the form, and length or magnitude is the matter; what he insists, however, is that "reducing all things ... and abstracting the matter is a vain effort," that length or magnitude is not merely a matter in which the form happens to occur, but rather a part of the λόγος of line, "the matter of the form" in the sense of Δ24; and for any form there is some such appropriate matter which belongs in the λόγος.

Z11 thus adds to the modifications which the second half of Z10 brings to the preliminary conclusions of the first half of Z10. From the first half of Z10 it seemed that there would be two equally scientific λόγοι of X, the physicist's λόγος, through the constituents, of the form-matter composite and the dialectician's λόγος, through the genera and differentiae, of the form alone. We saw in the second half of Z10 both that the constituents are not prior in οὐσία but at most in λόγος, and also that there is no λόγος of X taken together with its individual matter, but only with the matter under some appropriate universal description. We learn further in Z11 that (in both natural and mathematical cases) there is no λόγος stating the essence of X that is a λόγος of the form alone without the appropriate matter. This means that the essence of a natural thing is given not in a dialectical definition but in a physical definition, which includes matter and constituents; but in order to give a good physical definition, it is important to discern what matter is essential to the form and what is extrinsic, which constituents to include and at what level of generality. It must be stressed that in the division between dialectical ἀρχαί (the genera and differentiae) and physical ἀρχαί (the ἐνυπάρχοντα), the soul falls on the physical side: when Z11 concludes that "the soul is the primary οὐσία, the body is the matter, and man or animal is what is [composed] out of both of them as universal" (1037a5-7),³⁸ the point is not simply that the primary οὐσία of a thing is its form--that seems to be almost taken for granted in the contrast between οὐσία and matter--but also that Socrates' form is his soul, rather than a universal "man" or "animal" under which he falls, such as might be given by the geometrical arrangement of the anhomoeomerous parts of the body. To find the οὐσία of a natural thing X--equivalently, to find what belongs in the λόγος of X--we must proceed as physicists, but as good physicists, teleologically, defining X through its ἔργον (the ἔργον of the whole X, and the ἔργα of the parts so far as they contribute to the ἔργον of the whole); and this means that we will not include all of the parts arbitrarily, nor will we include them in their full material description, nor again will we include only their geometrical configuration; rather, we will start with the soul (if X is an animal or plant), and include the parts just so far as they are instruments serving the activities of the soul, with only so much of their geometrical or material description as is relevant to that function. While the main point of Z10-11 is a critical examination of the claims of the physicists, this is also a negative result about Platonic forms: as Aristotle says further down "the οὐσία is the immanent [ἔνουν] form, out of which together with the matter the composite οὐσία is said" (Z11 1037a29-30), and not a form separately existing. Aristotle adds here that "whether besides the matter of this kind of οὐσία there is some other [matter], and whether we should seek some other οὐσία, like numbers or something of this kind, we must investigate later: for it is for the sake of this that we are trying to determine about sensible οὐσία too, since the investigation of sensible οὐσία is in a way the task of physical and second philosophy: for the physicist must know not only about the matter but also about the [οὐσία] in the sense of the λόγος, and indeed

³⁸with repetition from Z10

[he is] more [concerned with οὐσία as form than with οὐσία as matter]" (1037a10-17). This passage is often cited for its implication that the first philosopher studies the forms of natural things only to the extent that they might shed light on οὐσία existing separately from matter, and indeed it does imply this; but in context, this is being said not optimistically ("what we have just learned about the forms of natural things will have consequences for separate non-sensible οὐσία") but rather as a bit of consolation after a negative result.³⁹ Despite what we have seen about the forms of natural things, it remains possible that there are separate non-sensible οὐσία, perhaps Platonic forms construed as numbers or the like, and we will have to investigate this later: but the way to Platonic forms (or numbers) as οὐσία of natural things does not work, and it is the physicist, rather than the dialectician or the first philosopher, who will grasp the οὐσία-as-form of the natural things.

The second half of Z11, 1037a5-b7, does not contribute any new conclusions, but rather sums up what we have learned in Z10-11 (thus 1037a5-10 on soul and body and the universal) and what remains to be done (thus 1037a10-17 just cited, and 1037a18-20, asking about the unity of the parts of the definition, to be taken up in Z12 and following chapters); the last twenty lines, 1037a21-b7, summarize the conclusions more broadly. But it is worth stressing that these lines too refer back exclusively or almost exclusively to Z10-11: this is important, because they are usually taken instead as a summary of Z4-11 as a whole,⁴⁰ with the consequence that Z10-11 are seen as part of the inquiry into the essence begun in Z4 and not as beginning a new investigation, and also with the consequence that Z12 is seen either as a mere afterthought appended to Z4-11 or as belonging to an entirely separate investigation (and often as one separate from the program of Z as announced at the beginning of Z3, if Z3 was the account of the subject and Z4-11 of the essence, and Z13 refers back to Z3 again to pick up the investigation of the universal). Furthermore, if Z11 1037a21-b7 are read as summarizing Z4-11 as a whole, it is easy to start excluding from the main body of Z4-11 those sections which are not reflected in the "summary." This is most often done with Z7-9, of which there is absolutely no trace in the "summary" (see discussion in *IIγ2* above), but there is no reason to stop there. Burnyeat, besides noting the omission of Z7-9, says that Z6 is recalled in the summary at 1037a33-b7, quite separately from Z4-5 recalled at 1037a21-32, and Burnyeat takes this as evidence that Z6 is "semi-detached" from the main argument of Z4-5, 10-11. However, the main body of Z4 (1029b22-1030b13) was an argument that only οὐσία have essences (or that only they have essences in the primary sense), and Z5 was a further argument for this conclusion from the premiss that accidents are said like the snub with regard to their appropriate underlying οὐσία, and Z11 makes absolutely no reference to this main conclusion of Z4-5 or to any of these arguments.⁴¹ At most, Z11 may refer to the first twelve lines of Z4 (1029b1-2, 13-22), and if so the reference is entirely exhausted in the words "it has been said in all cases what the essence is and in what way it is per se [πῶς αὐτὸ καθ' αὐτό]" (Z11 1037a21-2); and it is linguistically more likely that "πῶς αὐτὸ

³⁹cp. the end of Z16

⁴⁰Jaeger 1912 in fact says that it is a summary of Z1-11 as a whole!

⁴¹note the use of "snub" in Z11 no reference to Z5; the example of snubness, from the SE, is being used in two quite different ways in the two chapters, once for the relation of an accident to its appropriate underlying οὐσία, once for the relation of a form to its appropriate matter. cf. this footnote from *IIγ2* (?): Ross is wrong to say that Z11 1037a29-33, talking about the snub, refer back to Z5: the snub is being cited here (as in E1 and *Physics* II,2) as an example of a form taken together with matter, whereas in Z5 (as in the *Sophistical Refutations*) it is illustrating the more general logical difficulty (not depending on physics or on the concept of matter) about terms that cannot be defined without referring to some other term they presuppose; in context, the reference is clearly to Z10-11α (Ross admits that this is what the lines immediately before and after are referring to).

καθ' αὐτό" means "to what extent it exists separately," referring to the arguments of Z6 and Z7-8 against positing essences separate from the things, rather than to anything in Z4.⁴² So if Z11 1037a21-b7 is summarizing the main argument of Z4-11, then after what is either a compressed one-line summary of the definition of essence in the first twelve lines of Z4, or a compressed one-line summary of the conclusion that essences do not exist apart from the things, the summary then leaves out all of Z4-9 except perhaps Z6. But in fact there is no reason to take anything in the summary except "it has been said in all cases what the essence is and in what way it is αὐτὸ καθ' αὐτό" as summarizing anything outside Z10-11. Aristotle does say that "[it has been said] that the essence and each thing are in some cases the same, as in the primary οὐσίαι" (1037a33-b2), which sounds like Z6, but then he fills this out by explaining that by "primary" he means "what is not said through something being in something else, i.e. in something underlying as matter" (1037b3-4),⁴³ whereas Z6 had said nothing about matter (though it did speak of ὅσα μὴ κατ' ἄλλο λέγεται, ἀλλὰ καθ' αὐτὰ καὶ πρῶτα, 1031b13-14); and in Z11 he contrasts these primary things which are identical with their essences not only with "[things that are] one per accidens, like Socrates and the musical" (Z11 1037b5-6, close to Z6 1031a19-28)⁴⁴ but also with "the things that are as matter or as taken-together with the matter" (Z11 1037b4-5). This cannot be a summary of Z6; it refers back most immediately to the arguments of Z10-11 that the λόγος of a thing signifies its immanent form, so that although a man in the sense of the composite is not identical with his essence, a man in the sense of the soul is identical with his essence (and there is no need to take the essence to be something separate like a Platonic form of man). Certainly Aristotle is also referring back here to Z6, and reminding his readers that primary things said καθ' αὐτὰ are identical with their essences and that other things are not identical with their essences (indeed have no essences, or not in the primary sense), but what he is summarizing here is rather the result of Z10-11 that the essence of X as expressed by its λόγος includes one kind of immanent constituents, namely the parts of the immanent form of X, so that the X in the sense of its form (including the "matter of the form" but not the accidental matter) is indeed something said primarily and καθ' αὐτό, rather than something with some other underlying nature that is said to be X by participation in an extrinsic form of X.⁴⁵ Since the second half of Z11 is summarizing only Z10-11 (although setting these chapters in the context of the questions about the essence, whether it is identical to the thing or separate from it, raised earlier in Z), it gives us no reason to think that Z4-11 (with or without Z7-9 or other inconvenient parts) are a self-contained unit of Z, the investigation of the essence; and it gives us no reason to expect that Z12 will go on to the next branch from Z3, the investigation of the universal, or to expel it if it does not.⁴⁶

⁴²however, the H1 parallel might support the translation "in what way it is per se". it doesn't make much difference

⁴³textual problems: ἦ b2 right against ἦ; I don't see any reason to bracket οἶον καμπυλότης etc.; in b2 εἰ is probably right (but d check Jaeger on the Latin translations and the second hand in E, he's not reliable on that kind of thing), but ἦ might just be translatable: "as, in the case of primary οὐσίαι, what is primary is e.g. both concavity and essence of concavity" (see if anyone has taken it this way)

⁴⁴note on the textual issue at 1037b5: something like Ross-Jaeger οὐδ' εἰ must be right, but check what other people say (I think Alan Code tried out a very different interpretation--where?)

⁴⁵perhaps not so different from Burnyeat's view of the relation between Z6 to Z10-11 here, d cite

⁴⁶d eliminating notes and duplications. you may need to add: on the H1 summary, and against Frede-Patzig (i) ambiguity in "horse" or in "part"?, (ii) against idea that snubness is an obstacle to substantiality and needs to be overcome. maybe check some points included. against Ross, FP, maybe others, who think there are two aporiai, and who assimilate the first aporia to whether the definable essence is the form or the form-matter composite; FP's statement of the second aporia is very curious; also odd is their idea that the solution of the first turns on disambiguating "X" into the form of X and the composite X, rather than on disambiguating "part." check to make

Πδ1b: Z12: dialectical στοιχεῖα

If we understand Z10-11 as addressing an aporia from B#6 (and not simply continuing the Z4-9 discussion of essence), and more generally if we see Z as carrying out a program from B, we will not be tempted to take Z12 as a later addition, extraneous to the main argument of Z--which is how Jaeger takes it, followed by Ross, Frede-Patzig, Burnyeat and others. B#6 asked whether the ἀρχαί of X, and the στοιχεῖα into which X is spelled out by its λόγος, are (as the physicists say) X's primary ἐνυπάρχοντα, or rather (as the dialecticians say) its genera. Z10-11 has evaluated the physicists' claims about the ἐνυπάρχοντα, and distinguished different kinds of ἐνυπάρχοντα, but has not yet said anything about the genera. But the claim of the genera to be ἀρχαί would be quite live among Aristotle's audience, and Z3 has listed the genus among the things said to be the οὐσία of a thing; H1, summarizing Z, will say that there are arguments that the genus is more οὐσία than the species (1042a12-15), although ultimately the genus turns out not to be an οὐσία (a21-2). So we would naturally expect that, after Z10-11, Aristotle would turn to an investigation of genera, as indeed he does in Z12. The genera of X are clearly prior to X in λόγος and by the most straightforward application of Plato's test, so the question whether they are ἀρχαί of X will turn on whether they exist separately, besides the species and individuals that fall under them. This is where we would expect Aristotle to criticize Plato's claim of the priority of the genera (and ultimately of being and unity), perhaps drawing on the controversy around Xenocrates, who admitted the separate existence of infimae species but denied that the genera were anything παρά the totality of the species that fall under them. And Aristotle has begun this kind of criticism of Plato already in B#7, which is a natural outgrowth of the argument against the dialecticians in B#6, asking, if the genera are ἀρχαί, whether the highest or the lowest genera are prior and are therefore ἀρχαί (and at 998b30-31 he says that the differentiae are more ἀρχαί than the genera). B#7 uses various arguments (at least one apparently Xenocratean) to show the invalidity of the Platonist inference that the more universal thing exists παρά the things that fall under it, but Aristotle then points out that, rather than confirming that the lowest genera are the ἀρχαί, this result undermines our reasons for positing any genera at all as separately existing, and so for positing any genera as ἀρχαί. As we would expect, Z12 takes up these issues from B#7: it does not explicitly speak in terms of ἀρχαί (Z usually does not), but it examines the role of higher and lower genera, higher and lower differentiae, in the definition of X, and it concludes that the genus does not exist παρά its species, which certainly implies that it is not an ἀρχή of the species. The argument of Z12 seems to imply that it is rather the differentiae, and in particular the ultimate differentia, which are ἀρχαί of the species, but Aristotle concludes that the ultimate differentia contains the whole

sure you're not duplicating with Iβ3 on B#6-9 or with IIα3 (and in any case add back-references to those sections at least in footnotes), or with what you've said just above in the new intro to IIδ. need new intro-transition; maybe say more to justify why you think there's a reference to B#6; on the alleged second aporia, spell out more how Bonitz/Ross/FP are thinking, say explicitly that the second aporia is about priority, perhaps some comments on "interweaving" (I think FP say something interesting here), their assimilation (not Bonitz) of the first aporia to the question whether the definable essence is the form or the composite (and thus whether form or composite satisfies one of the criteria of substance); in the lines after the first inset quote, maybe add emphasis and evidence for the claim that Aristotle's interest is in parts of λόγοι as means to ἀρχαί rather than to essence (the latter emphasis going esp. w/ criteria-and-candidates view, but also with Burnyeat's view that Z is examining οὐσία-of), perhaps here note reply to Kelsey on the local difference made by seeing Z as about ἀρχαί; eliminate Bostock in favor of FP. d review Brussels notes, d see how to use perhaps esp for Z10β + text problem 1035a27

οὐσία of the species: thus it is not prior but simultaneous, and so again not an ἀρχή, and certainly not a στοιχεῖον into which X is spelled out, since there is only one of it.

However, Aristotle chooses an indirect approach in Z12. Rather than stating at the outset the thesis that the genus does not exist παρά its species (or even raising at the outset the question whether the genus does not exist παρά its species), and then supporting his conclusion by arguments such as those of B#7, Aristotle instead raises a different aporia, and introduces his conclusions gradually as a solution to the aporia: "now let us speak, to begin with, about definition in so far as it was not discussed in the Analytics: for the aporia which was mentioned there is useful for the discussions about οὐσία. I mean this aporia, why that whose λόγος we call a definition is one, for instance, of man, biped animal: for let this be its λόγος. So why is this one and not many, animal and biped?" (Z12 1037b8-14).⁴⁷ The reference back to the Analytics (specifically to Posterior Analytics II,6 92a27-33, "why will man be biped footed animal, rather than biped and footed and animal? for from the premisses there is no necessity that what is predicated [of man] be one, rather [it might be] as the same man is musical and grammatical";⁴⁸ and more generally to the discussion of the conditions for a λόγος to be a definition, and why the Iliad, being one only by "conjunction," is not a definition of the events that took place before Troy) should not mislead us into thinking that Aristotle is pursuing unfinished business from the Analytics rather than the program of Z. He refers back to this aporia only because it "is useful for the discussions about οὐσία", that is, because consideration of this aporia will lead us to the conclusion that the genus does not exist παρά its species, and that the genera and differentiae are not ἀρχαί of the species. This is perfectly natural as a way of investigating B#6. And, as a means to addressing B#6, Aristotle is here developing a line of thought from B#9, that if the στοιχεῖα are each numerically one-per-type--as the Platonists believe of the genera, the στοιχεῖα of dialectical definitions--then "there will be nothing else παρά the στοιχεῖα" (999b32-3), because numerically the same α cannot both be part of a syllable βα and also be part of a different syllable γα (that is, it cannot be part of both at the same time, and so also it cannot be part of both eternally): if it is part of a syllable βα, then by parity of reasoning it should also be part of a syllable γα, and if it cannot be both it is neither (see discussion in Iβ3 and Iγ2d above). Now although B#9 formulates this as an aporia about the numerical unity of each στοιχεῖον-type, the argument also turns on the unity of the many στοιχεῖα within each syllable. To say that βα and γα cannot contain the same στοιχεῖον α is to say that a single στοιχεῖον α cannot both be united to β in such a way as to constitute with it the λόγος of a single thing, and also be united in the same way to γ. So Z12 reformulates the aporia as an aporia about the unity of the στοιχεῖα within each λόγος, in the first instance within a dialectical definition, in order to lead to the solution that, in order for the genera to be united simultaneously to their different differentiae, they must not exist παρά their species in such a way that they could be ἀρχαί of the species.

The commentators, however, have generally discounted any such connection of Z12 with the programs of Z and of B, and have seen the aporia about the unity of the definition as a special problem digressing from Z's main discussions of ὑποκείμενον, essence and universal, not motivated by anything that has gone before and not picked up by anything that comes after. As we have seen, this leads many of them (Jaeger, Frede-Patzig, Burnyeat, Ross in his introduction but not his commentary) to conclude that Z12 is a later insertion in Z. More surprisingly and radically, they also conclude that "Z12 is a torso" (Burnyeat Map p.44), i.e. not simply that Z was originally planned without it, but that Z12 was originally written as part of something else

⁴⁷textual issue τοῦ ἀνθρώπου and so on, see FP's remarks

⁴⁸and cp. De interpretaione c5 17a11-15, d cite

(whether this other work was finished or abandoned) and then torn out of its intended context and inserted in Z.⁴⁹ The reason is that Z12 three times speaks about doing something "first" or "initially" (let us speak *πρῶτον* about definition 1037b8-9, we must examine *πρῶτον* definitions reached by division 1037b27-9, let so much be said *τὴν πρώτην* about definitions reached by division 1038a34-5), apparently promising a further treatment; the commentators say that this further treatment--and, in particular, a treatment of any kind of definitions not reached by genus-differentia division--is not found in ZH, and so must have been in some other real or intended writing.⁵⁰ However, the claim that the problem of the unity of the definition is not picked up in the remainder of ZH depends on a peculiarly narrow construal of the issue. The need for a unity of the many *στοιχεῖα* mentioned in a *λόγος τῆς οὐσίας* is a major theme of ZH, announced in Z12 and picked up at least in Z13, Z14, Z17, H3 and H6, with reference both to *λόγοι* reached by division and to *λόγοι* through the material constituents. Most immediately, Z13 argues that no *οὐσία* can be composed out of *οὐσίαι* existing in it in actuality, whether these are separately existing universals (the *στοιχεῖα* of a dialectical *λόγος*) or material constituents (the *στοιχεῖα* of a physical *λόγος*), on the ground that they could not be sufficiently unified, i.e. that if they are many *οὐσίαι* in actuality they cannot also be one *οὐσία* in actuality. Z13 uses this argument to construct an *aporia* against the possibility of definition:

if neither can any *οὐσία* be out of universals, on the ground that [a universal] signifies a such rather than a this,⁵¹ nor can any *οὐσία* be a composite out of *οὐσίαι* in actuality, then every *οὐσία* would be incomposite, so that there would be no *λόγος* of any *οὐσία*. But it seems to everyone, and we have said before, that there is a definition either only or chiefly of *οὐσία*; and now, it seems, not even of this; so there will be no definition of anything. (1039a14-21)

Aristotle uses this *aporia* in Z13-16 to argue against either genera or material constituents as further *οὐσίαι* existing prior the thing, and then he uses it in Z17-H to motivate a new account of the *λόγος τῆς οὐσίας*, and a new account of the *οὐσία* of a thing as a kind of *ἀρχή* which is not a *στοιχεῖον*. Why would all this not count as picking up Z12's *aporia* about the unity of a definition? It is true that Aristotle is more concerned in these chapters with the objects that would be *στοιχεῖα* in the *λόγος*, less with the linguistic formulation of the *λόγος*, but this is true in Z12 as well. It is also true that these chapters are less concerned than Z12 with the predicative structure of the definition, i.e. with whether the differentiae are predicated of the genus, but this issue will arise only with genus-differentia definitions, not with definitions through material constituents, and Aristotle does raise the issue again in Z14, in arguing against "those who both say that the ideas are separate *οὐσίαι* and at the same time make the form/species out of the genus and the differentiae" (1039a24-26): if one and the same separately existing genus, animal-itself, exists both in man and in horse, and

if it is going to participate in biped and in many-footed, something impossible follows, for contraries will belong simultaneously to the same thing, it being one

⁴⁹but note Gill

⁵⁰note Ross (cited by Burnyeat) on the sense of *τὴν πρώτην*. Ross suggests that the discussion is carried further in H6, but admits that this does not pick up the non-division kind of definition, which must, he says, be definitions through the material constituents.

⁵¹and, as Aristotle has argued at 1038b23-29, an *οὐσία* or this cannot be out-of non-*οὐσίαι* or suches, since then "a non-*οὐσία* and a such would be prior to an *οὐσία* and a this"

and a this; but if it does not [participate in these differentiae], then what is the manner [of predication] when someone says that animal is biped or footed? Perhaps [the genus and the differentia] are "compounded" or "in contact" or "mixed"? But all these are absurd. (1039b2-6)

Z14 is here clearly applying the aporia of B#9 to the genera and differentiae, arguing here against the genus "animal" being a single one-per-type στοιχείον; a bit further down, it argues against the other horn, there are many separately existing στοιχεία of the same type animal-itself. Z14 thus seems to be taking up the aporia of Z12 and using it to thematize the question of the numerical unity or multiplicity of each genus-type within the many species-forms.

Nonetheless, many commentators seem to think that Z12 is dealing with essentially different concerns from, for instance, Z14, because Z14 seems to be arguing purely negatively against the Platonists, and because Z14 seems to be demanding only a weak kind of predicative unity in a definition (merely that the differentiae must somehow belong [ὑπάρχειν] to the genus, a weak demand but one that the Platonists cannot satisfy). Frede-Patzig, notably, read Z12 as demanding a much stronger (indeed, an absurdly strong) kind of unity of definition, presumably as a way of elaborating definable unity as a criterion for οὐσία.⁵² If Z12 were doing what Frede-Patzig think, then it would indeed, as they conclude, be a digression from the main argument of Z. But there are no sufficient grounds for reading the text Frede-Patzig's way, and indeed in reading it this way they are forced not only to break its apparent connections with its present context (and to imagine some other lost or unfinished sequel) but also to posit major textual damage within Z12 itself--and this in a text that is remarkably coherent and well-argued as we have it.

A major issue in interpreting Z12 is thus to decide how much unity Aristotle is demanding of (in the first instance) a genus-differentia definition, when he raises the aporia "why that whose λόγος we call a definition is one, for instance, of man, biped animal: for let this be its λόγος. So why is this one and not many, animal and biped?" (1037b11-14). In what sense do the genera and differentiae have to be united to constitute a definition, and what justifies Aristotle in demanding this kind of unity of a definition (or perhaps specifically of the definition of an οὐσία)? And what would such unity exclude--what would be a sign that a purported definition is not united enough to be really a definition?

We must be guided by the role that the demand for the unity of the definition plays in Aristotle's argument. He starts by saying:

Now let us speak, to begin with, about definition in so far as it was not discussed in the Analytics: for the aporia which was mentioned there is useful for the discussions about οὐσία. I mean this aporia, why that whose λόγος we call a definition is one, for instance, of man, biped animal: for let this be its λόγος. So why is this one and not many, animal and biped? In the case of man and white, these are many [or, there are many things] when one of them [sc. white] does not belong [ὑπάρχει] to the other [sc. man], one when it does belong and the ὑποκείμενον, man, is affected [πάθη τι]: for then they come to be one [or one thing comes to be], and white man exists. But in this case one of them does not

⁵²according to Frede-Patzig, in a definition "handelt es sich bei den Teilen nicht um verschiedene Dingen, die nur durch physische oder logische Verknüpfung zu einer komplexen Sache zusammengefügt sind, sondern um eine Sache, die nicht ihrerseits aus mehreren Sachen zusammengefügt ist, auch wenn in der Definition von verschiedenen Sachen die Rede zu sein scheint," II,224. it seems clear that no Aristotelian definition could satisfy this demand

participate [μετέχειν] in the other. For the genus seems not to participate in the differentiae: for the same thing would participate simultaneously in contraries, since the differentiae are contraries by which the genus differs. And even if it does participate, the case is the same if the differentiae are several, e.g. footed, biped, wingless. For why are these one thing rather than many? Not because they belong [ἐνυπάρχει, sc. to the genus], for in that way there will be one thing out of all [differentiae of a given genus]. But all the things in a definition must be one: for the definition is some one λόγος, and of an οὐσία, so that it must be the λόγος of some one thing, for οὐσία too signifies a one and a this, as we say. (Z12 1037b8-27, partly cited above)⁵³

One main interpretive issue is about the relation between the example of man and white and the example of animal and biped. Man and white are one when white belongs to man, that is, when the man in question is white; but how is this related to the kind of unity that animal and biped would have to have for "biped animal" to be a definition? What is the contrast that Aristotle is drawing between the two cases? Ross thinks (and I agree) that the contrast is simply that white does belong to man (in some particular cases), while biped does not belong to animal, or would not under some conditions (e.g. if the genus exists as a single thing παρά the species), and that therefore under those conditions "biped animal" cannot be a definition. Of course biped does belong to some animals, such as Socrates, but Aristotle's claim would be that biped would have to belong to the genus animal, to the essence signified by the word "animal," in order for "biped animal" to be the λόγος of one thing, rather than of two things both of which happen to be true of Socrates. On this account, then, Aristotle would be concerned with only one kind of unity between ὑποκείμενον and predicate (although in the case of man and white the ὑποκείμενον is a sensible individual and in the case of animal and biped it is the genus itself), namely with the predicate's ὑπάρχειν to the ὑποκείμενον, i.e. with its being true of the ὑποκείμενον; the fact that he speaks in one case of the thing's πάσχειν and in the other case of its μετέχειν would have no have any significance for the argument. This is certainly Aristotle's strategy in the passage from Z14 cited above, which alternates between μετέχειν and ὑπάρχειν: "if [a numerically single genus animal] is going to participate [μετέχειν] in biped and in many-footed, something impossible follows, for contraries will belong [ὑπάρχειν] simultaneously to the same thing, it being one and a this" (1039b2-4). Here the point is simply that two contrary predicates cannot both be true of numerically the same thing, and no matter whether are true of it by μετέχειν or πάσχειν or whatever; the Platonist responses that Aristotle goes on to consider and reject do not worry about the way that biped would be true of the genus animal, but try to save the unity of the definition without biped being true of the genus animal (the separately existing genus and differentia would merely be "compounded" or "in contact" or "mixed"). It is plausible that this is Aristotle's strategy in Z12 as well: premisses that the genus and the differentia must be united in some stronger sense would not help his case against the Platonists, and, to the extent that he fails to justify such premisses, they would actually hurt.

However, both Bonitz and now Frede-Patzig (against Ross) think that Aristotle is indeed demanding something stronger than the mere unity-by-πάθος that man has with white. Bonitz thinks that Aristotle intended, first to distinguish between unity by πάθος and unity by participation (Bonitz cites Topics IV,1 121a11-12, where X participates in Y iff the λόγος of Y applies to X--in that sense a man would not participate in white, since he is not a color expansive

⁵³note on the issues οὐσία/οὐσίας and καί/εἰ in 1037b26

of the visual ray),⁵⁴ then to dismiss unity by *πάθος* as insufficient for the unity required in a definition,⁵⁵ and finally to argue that unity by participation, which would be sufficient, does not obtain; Aristotle would then give his own solution, namely that all the genera and differentiae are implicitly contained in the ultimate differentia. But Bonitz frankly admits that the text we have does not in fact do this: rather, the text would leave us with the impression that *πάθος* and participation are the same, and its arguments against the genus participating in the differentiae do not turn on Bonitz' strong sense of "participation," but are simply arguments against the differentiae being predicated of the genus in any way at all.⁵⁶ (And of course Plato speaks of participation even in cases of non-essential predication, indeed especially in such cases; and so does Aristotle elsewhere.)⁵⁷ Nonetheless, Frede-Patzig endorse Bonitz' views, that unity by *πάθος* and unity by participation are two different kinds of unity, and that Aristotle is rejecting both of these kinds of unity for the genus and differentia, and maintaining that they are united in some third way. Against Ross' view that Aristotle is not distinguishing these kinds of unity here, they argue that "Aristoteles, wie der Rest des Kapitels zeigt, ein viel engeres Verhältnis von Gattung und differentia fordern wird als das einer ousia zu ihren Widerfahrnissen" (II,226), and indeed Aristotle believes that the relation of genus to differentia is closer than the relation of οὐσία to accident; but the question is whether he "demands" this in raising the aporia in Z12 1037b8-27, and Ross is right that the aporia does not involve any such premiss.

While Bonitz thinks that Aristotle rejects unity by *πάθος* because it is too loose, and rejects unity by participation because it cannot obtain, Frede-Patzig think Aristotle cannot be rejecting unity by participation for this reason, since Aristotle concedes (at least for the sake of argument) that the genus might participate in the differentiae (Z12 1037b21), and since his fallback argument that participation could not explain the unity of a multiple-differentia definition is resolved by his argument later in Z12 that all the differentiae are implicitly contained in the ultimate differentia. Since, according to Frede-Patzig, Aristotle still rejects unity through participation, he must have some further reason for thinking that participation could not explain the unity of a definition even if it did obtain--although, unfortunately, Aristotle never tells us what that reason is. (Frede-Patzig either reject or do not consider the possibility that Aristotle's solution to the aporia is intended to defend unity by participation, but in a way not available to someone who holds that Platonist thesis.) On this modified version of Bonitz' interpretation, three crucial parts of Aristotle's argument would be missing: "Jedoch wäre dieser Gedanke [of Aristotle according to this interpretation] nicht bloß nachlässig, sondern unvollständig formuliert,⁵⁸ weil weder ein Hinweis gegeben wird, warum die *κατὰ πάθος*-Einheit für den Fall der Definitionseinheit nicht genügen kann, noch gesagt wird, wodurch sich die Teilhabe von der *κατὰ πάθος*-Einheit unterscheidet, noch, schließlich, erklärt wird, warum auch Einheit durch Teilhabe nicht zur Begründung der hier in Rede stehenden Einheit ausreichen könnte, selbst wenn sie vorläge und wenn die Schwierigkeit mit den mehrfachen differentiae (b21-2) auf ähnliche Weise gelöst werden könnte, wie in 1038a17-25 gezeigt werden wird" (II,226). This sounds like a reductio ad absurdum, but Frede-Patzig simply accept all the consequences: these parts of Aristotle's argument have fallen into strategically placed lacunae, and "[v]ielleicht hängt dieser Befund mit dem Textcharakter von Z12 allgemein zusammen, der auch unter anderen

⁵⁴Bonitz also cites Topics VI,6 143b13-21, which does not really help.

⁵⁵"notarum vero in notione unitas extra hanc mutabilem et fortuitam rationem posita est," p.343

⁵⁶cite from Bonitz p.343 "negligentius haec vel scripta sunt vel disputata" etc.

⁵⁷note Ross' footnote on this ad locum, and the texts he cites

⁵⁸meant as a contrast to the comment of Bonitz cited in the previous note

Gesichtspunkten eigentümlich fragmentarisch wirkt" (II,227). But, whatever one thinks about whether Z12 interrupts the argument of Z, or about whether Z12's forward references are picked up later in ZH, Z12 internally is a very well-organized and well-argued text. Frede-Patzig are willing to do violence to the text because it will not serve the task they assign it, of imposing strong definable-unity criteria for being an οὐσία. No such violence is needed to read the text as contributing, with the rest of Z10-16, to the program of B#6-9.

As we have seen, Frede-Patzig think Aristotle is maintaining that unity by participation between genus and differentia, even if it occurred, would not give sufficient unity to the definition. They base this on 1037b21-4, "even if it does participate, the case is the same if the differentiae are several, e.g. footed, biped, wingless. For why are these one thing rather than many? Not because they belong [to the genus], for in that way there will be one thing out of all [differentiae of a given genus]." But Aristotle's point here does not turn on a demand for unity in any especially strong sense, nor is he really conceding that animal might participate in biped (and pari ratione in quadruped). His point is that even if you are willing to accept that numerically the same thing, the genus animal, participates in all its differentiae, this will not explain why wingless biped animal is the λόγος of a single οὐσία, since if it did it would equally explain why quadruped biped animal is the λόγος of a single οὐσία, which it surely is not.

If, however, we do not posit a single τόδε, the genus, which would have to be simultaneously united to each of its differentiae, then Aristotle tries to show that we can explain the unity of any correctly given genus-differentia definition, no matter how many genera and differentiae it may include. First we can reduce to one genus, since all lower genera mentioned in the definition are simply the highest genus together with their differentiae (so if a definition includes two genera, living thing and animal, say instead sensitive living thing). Then we reduce to no genera: "so if the genus does not exist at all παρά the species of the genus, or if it exists, but exists as matter (for vocal sound [φωνή] is the genus and the matter, and the differentiae produce the species, the στοιχεῖα [= phonemes], out of this), it is clear that the definition is the λόγος [consisting] of [ἐκ] the differentiae" (1038a5-9). To say that the genus exists as matter for its species is to give up on saying that the genus is a τόδε, and to admit that it exists inseparably from its species, as (according to Aristotle) the matter of natural things exists inseparably from the different οὐσίαι that are constituted out of it: it is a potentiality for each of them, and this potentiality never exists without being actualized in some way, and in each case the matter exists because the οὐσία exists and is enmattered. It is because the genus has this mode of existence that there is no absurdity in its participating in contrary differentiae. Furthermore and more precisely, the genus is matter for the species in the sense of what Δ24 calls the "matter of the form": some things are "out of" [ἐκ] others "as the form is out of the part, the way man is out of biped and the syllable is out of the στοιχεῖον: this is different from the way the statue is out of bronze, for the composite οὐσία is out of sensible matter, but the form is also out of the matter of the form" (Δ24 1023a35-b2, cited above and in IIα3). That is, the genus is the per se ὑποκείμενον of which the differentiae are predicated, as odd and even of number or snub and aquiline of nose, in such a way that the differentia (or the whole range of contrary and intermediate differentiae) cannot apply to anything except this genus; and thus the genus and the differentia will be united, not by being externally attached to each other as two στοιχεῖα in a syllable, but because the differentia implicitly contains the genus as the differentiae of α implicitly contain vocal sound. This is what is supposed to justify Aristotle's conclusion that "the definition is the λόγος ἐκ the differentiae" (1038a8-9, cited above), rather than what it more obviously is, a λόγος composed of genera and differentiae, or out of a single first genus and a plurality of differentiae.

Recall that Aristotle's overall aim in Z12 is to refute the dialecticians' answer to B#6, that the ἀρχαί and στοιχεῖα of a thing are its genera and that the οὐσία of a thing is given by the λόγος that breaks it down into its genera, by arguing that the opponents cannot maintain either side of the dilemma of B#7, that either the highest or the lowest genera are prior and are the desired ἀρχαί and στοιχεῖα. Using the aporia of the unity of the definition, Aristotle has refuted Plato's claim that the highest genus (the only genus that remains when we resolve the lower genera into their differentiae and the highest genus) is prior, and argued instead that the lower genera, or more precisely their differentiae, are prior. It remains possible that a plurality of differentiae are the ἀρχαί and στοιχεῖα of the thing, and that the οὐσία is given by the λόγος that breaks the thing down into these differentiae. Aristotle wants to refute this too, as he wants to refute any view that the ἀρχαί of a thing (prior to it in a strict sense) are στοιχεῖα or that the οὐσία of a thing can be given by giving its στοιχεῖα. So he uses the same strategy, raising again the aporia why such a λόγος is one, i.e. is a λόγος of one οὐσία and not of several οὐσίαι each constituted by one of the differentiae. The answer cannot be that all the differentiae are predicated of a single τόδε, the genus, because there is no such single τόδε and because if there were it would explain the unity of quadruped biped animal as well; nor can the answer be that all the differentiae are predicated of Socrates, which would be true even if he thereby participates in two forms, biped and wingless, and not in any one form of man. Aristotle argues (or at least allows it to emerge in solving the aporia) that the unity of the differentiae with each other is explained in the same way as the unity of each differentia with its genus, namely that in a correctly given definition the lower differentia presupposes the higher differentia as its *per se* ὑποκείμενον, just as it presupposes the genus; so the higher differentia is in potentiality to each of the lower differentiae and does not exist in separation from them, and the lower differentia does not need to be attached to the higher differentia but already implicitly contains it, as biped contains footed. If this is right--and it is not obvious that we can define e.g. an animal species without using a broader range of differentiae than Aristotle's strictures here allow⁵⁹--then we can eliminate not merely the lower genera and then the highest genus, but also all differentiae but the lowest, so that we can say not merely that "the definition is the λόγος ἐκ the differentiae" (1038a8-9) but that "the ultimate differentia is the οὐσία and definition of the thing" (1038a19-20). This answers B#7 by saying that the lowest differentia is prior to all the higher differentiae and genera, so that it alone has a claim to be the ἀρχή. But it also means that this lowest differentia is not a στοιχεῖον in the definition of the thing (as if the definition were composed out of it and something else), since it is rather the whole definition of the thing; and this also means that it is not an ἀρχή of the species to be defined, since it is simultaneous with the species, either implying the other.

It thus results from Z10-11 that none of the parts of either a physical or a dialectical λόγος is properly an ἀρχή of the thing: it may be prior to the thing in λόγος, but in οὐσία it is at best simultaneous. In a sense, this gives a satisfactory solution to B#6: neither the physicists' nor the dialecticians' στοιχεῖα are ἀρχαί of the thing, citing such στοιχεῖα does not give the οὐσία of the thing. On the other hand, the argument raises further difficulties, which Aristotle will deal with in Z13 and following chapters. If neither physical nor dialectical στοιχεῖα combine to give a λόγος τῆς οὐσίας, or if the dialectical λόγος reduces to a single term and is thus no λόγος at all, is it really possible to give a λόγος of anything? And if, as Z10-11 have argued, we cannot give a λόγος of anything without mentioning those constituents which are "parts of the form" (like α and β in $\beta\alpha$) or without mentioning the "matter of the form," how would this physical λόγος including the parts or the matter relate to the genus-differentia definition? B#6, after

⁵⁹copy footnote from OSAP?

arguing on behalf both of the physical and of the dialectical λόγος, had said "but the λόγος of the οὐσίαι is one": will Aristotle now say that there are two? We have already seen the beginnings of an answer to this question: Z10 had seemed at first to distinguish between a λόγος of the composite (including the material constituents) and a λόγος of the form (without these constituents), but had then made clear that there is no λόγος of the individual material composite, and that every λόγος must include the matter of the form and the parts of the form; and Z12 has implied that in a properly given genus-differentia definition, the genus will be the matter of the form. This suggests that the physical λόγος and the genus-differentia definition, if correctly given, will coincide, but so far this is at best a promissory note. Z12, and Z10-12, have done what they were supposed to in answering B#6-7; but after something of a detour at the beginning of Z13, Aristotle will return, by the end of Z13, to addressing the further problems raised by these chapters.

{old} IIδ2 (out of 2) = now probably IIδ3 (out of 5)}: Z13-16

In IIα3 above we discussed the problems of the internal structure of Z in general, and in particular the problem of how Z13-16 fit into the program of investigating the οὐσία of things sketched in the first sentence of Z3. According to Jaeger, Ross, Frede-Patzig and Burnyeat, these chapters ought to be the investigation of the claims of the universal to be οὐσία,⁶⁰ and indeed Aristotle seems to signal at Z13 1038b1-8 a turn back to the universal, as a separate branch of the investigation laid out in Z3 ("Since the investigation is about οὐσία, let us go back again. It is said that, as the ὑποκείμενον and the essence and the composite are οὐσία, so also is the universal. We have spoken about two of these (for [we have spoken] both about the essence and about the ὑποκείμενον, that it underlies [ὑποκεῖται] in two ways, either being a this, as the animal [underlies] the affections, or as the matter [underlies] the actuality); but it also seems to

⁶⁰{the following note should probably be incorporated into IIα3, and referred back to here and at the beginning of IIδ.} this simplifies a complex situation. Jaeger actually says (1912, p.59) that Z13-17 (not just to Z16) consider the universal and the genus, as Z1-11 had treated the first two senses of οὐσία, the ὑποκείμενον and the essence (Z12 is an interpolation); I have no idea how he would defend this interpretation of Z17. Ross, Frede-Patzig and Burnyeat all say, in general discussions of the structure of Z, what I report them here as saying, but they also, when they treat Z13-16 in more detail, say things that qualify this. thus Ross AM I, cvii-cxi groups all of Z13-16 together under the examination of the universal, but at II, 208-9 he says that Z13-16 is about two claims, that no universal is substance and that no substance contains substances as parts, and at II, 164 he says (following Bonitz, see below) that Z13-14 is the examination of the universal. FP II, 33 (talking about Z3 and the division of the subsequent text) say that Z13-16 examines the view that the οὐσία is something universal, but at I, 35 they say that is not immediately continuous with Z15, and that "man würde Z16 kaum mit Z13-15 in engerer Verbindung sehen, stünde nicht am Schluß von Z16 eine Zusammenfassung der beiden Hauptresultate von Z13-16: Nichts allgemeines kann ousia sein, und keine ousia kann ihrerseits aus ousiai bestehen"; at II, 297 they repeat this, and seem to despair of finding internal unity even within Z16. Burnyeat Map p.10 (in the actual map) puts all of Z13-16 under the head "Third logical specification: substantial being as universal"; but then he too speaks of the thesis about universals and the thesis that no οὐσίαι is composed out of actual οὐσίαι as on a par (it is not clear to me how this can fit into his picture of the overall argument-structure of Z). Bonitz says something interestingly different at II, 352: after Aristotle sets prime matter aside in Z3, he argues in Z4-12 that the essence is substance and examines it from various points of view, then he examines things that might plausibly seem to be substances, disposing of universals in Z13-14, of individuals in Z15, of the parts of sensible individuals in the first part of Z16, and of the highest concepts, being and unity, in the remainder of Z16. this is something like what FP say at I, 35 and II, 297, admitting that at least the first part of Z16 cannot be subordinated to a discussion of universals, except that he also gives up on fitting Z15 under this program (which is right as far as it goes, but misses that Z15, like Z13-14, is chiefly against Platonic forms, see below); but Bonitz doesn't really succeed in making sense of the order of topics (why would Aristotle first refute the claim that universals are οὐσίαι, and then later refute the claim that unity and being are οὐσίαι?)

some people that the universal is most of all a cause, and that the universal is an ἀρχή; therefore let us go back to this [sc. the universal] too").⁶¹ But, as we saw in IIα3 (and recalled in the introduction to the present chapter IIδ), it is impossible to subsume all of Z13-16 under the investigation of universals: Z16 argues equally that earth and water and air and fire and the parts of animals are not οὐσίαι (1040b5-16) and that being and unity and other universals are not οὐσίαι (1040b16-27), and it concludes that "it is clear that neither is any of the things said universally an οὐσία, nor is any οὐσία [composed] out of οὐσίαι" (1041a3-5), apparently summing up the results of at least Z13-16, and not privileging the investigation of universals as οὐσίαι over the investigation of constituent parts as οὐσίαι. Even Z13 itself argues that no οὐσία is composed out of actual οὐσίαι (1039a3-23), applying this equally to universals (such as the genus and differentia), to Democritean atoms (a7-11), and to units as constituents of numbers (a11-14). So while Z13-16 certainly contain some discussions of universals, these chapters are not, as a whole, about universals; as I argued in IIα3, these chapters are, like Z10-12, about parts of the λόγος whether dialectical or physical, and investigating and rejecting the claim of these parts to be οὐσίαι--the third of Aristotle's senses of οὐσία from Δ8 (1017b17-21).⁶² More specifically, from Z13 1039a3 to the end of Z16, Aristotle is building on his conclusion that no οὐσία is composed either out of actual οὐσίαι or out of universal suches, and using it to argue against the claims of universals or genera or Platonic forms or physical constituents to be οὐσίαι. Z13 also uses this conclusion to give an aporia against the possibility of definition as such ("if neither can any οὐσία be out of universals, on the ground that [a universal] signifies a such rather than a this, nor can any οὐσία be a composite out of οὐσίαι in actuality, then every οὐσία would be incomposite, so that there would be no λόγος of any οὐσία," but, as argued in Z4-5, non-οὐσίαι do not have definitions, or only derivatively, "so there will be no definition of anything," 1039a14-21). This aporia too does not privilege the case of universal parts of the λόγος, and applies equally to dialectical and physical definitions. It is disputed whether the promised solution to this aporia ("or perhaps there will be [a definition] in one way but not in another; what has been said will be clearer from what follows," 1039a21-3) comes within Z14-16 (so most emphatically Burnyeat, Map pp.50-51), or beyond in Z17-H (as I will argue), but in any case Z14-16 are arguing under the shadow of this aporia, and will ultimately be used to support Aristotle's positive claim that the οὐσία of X, and the λόγος of the οὐσία of X, must be given not as a στοιχεῖον or part of the λόγος, nor as the sum of all the στοιχεῖα or parts of the λόγος, but in a different way which he will go on to describe.

From this perspective, integrating the argument of Z13-16 into the broader argument of Z10-16 and Aristotle's investigation of the parts in the λόγος of X as partial οὐσίαι of X, what seems anomalous is not the discussions of material constituents in Z13 1039a3-23 and Z16 1040b5-16, but rather the discussion of universals in Z13 1038b3-1039a3, or, more precisely, a part of that discussion. It is of course perfectly natural that, in discussing the parts of the λόγος of X and their claim to be οὐσίαι prior to X, and partial οὐσίαι of X, Aristotle would want to talk about the universal or universals under which X falls. As we have seen, in Z13 1039a3-23 universals

⁶¹ note FP's deletion of καὶ τὸ ἐκ τούτων (endorsed by Burnyeat); might be supported by the contrast between τοῖν δυοῖν and the universal, and by the reference back to the first sentence of Z3, but I'm not convinced these grounds are sufficient. while the ὑποκείμενον, the essence, the composite and the universal are all said to be οὐσία, the composite is not said to be an ἀρχή--it is on the contrary that whose ἀρχαί we are seeking--and that is why Aristotle dismissed it at Z3 1029a30-32 and did not give it a separate investigation. (however, if we're going to delete something, the second τὸ καθόλου, 1038b8, looks like it might be a gloss; the sense won't be seriously affected)

⁶² as noted in IIα3, Z13 1038b30-34 speaks of the genera as τὰ ἐν τῷ λόγῳ, which is how Z10 speaks of the letters in the syllable

are one possible kind of constituent that an οὐσία might be composed out of (but, apparently, is not), and already Z13 1038b16-18 raises the suggestion, "perhaps it is impossible [sc. for the universal to be οὐσία] as the essence, but it is present as a constituent [ἐνυπάρχει] in the essence, as animal is in man and horse," that is, as an οὐσία in the third sense from Δ8. However, this is not the only suggestion that Aristotle is investigating in Z13: when he first raises for discussion the claim that the universal is an οὐσία, a cause, and an ἀρχή (1038b1-8, cited above) he says nothing about its being only a partial οὐσία of the things that fall under it, and his first refutation of the claim that some universal is the οὐσία of the things that fall under it (1038b8-15) apparently turns on interpreting the claim as meaning that the universal is the (whole) essence of the things (thus "things whose οὐσία and essence are one are themselves one," 1038b14-15); only after refuting this claim does he turn to investigate the claim that the universal is a mere part in the λόγος. So at least 1038b8-15 are in some sense a digression from the larger investigation of the parts of the λόγος, and thus also from the larger plan of Z3-16, which (as I argued in IIα3) investigates successively the claims of the ὑποκείμενον of X, the essence of X, and the parts of the λόγος of X to be further οὐσίαι existing prior to X. However (as I also argued in IIα3) there is nothing very mysterious about this: although in fact a universal under which X falls cannot be the whole essence of X, some philosophers might well think that the infima species of X is the whole essence of X, and it is natural for Aristotle to want to refute their view along with the more plausible view that the infima species, like the genera, is a part of the essence of X.

In examining the universal as such at this point in the argument of Z, Aristotle is broadly following the agenda of Metaphysics B. B#5 had asked the general question whether there are other οὐσίαι, such as mathematical or ideas, beside the sensible οὐσίαι, thus also implicitly raising the question whether mathematics or dialectic give access to a domain of οὐσίαι separate from, and presumably prior to, those which physics gives access to. (The K parallel, K1 1059a38-b14, both phrases the question as about the sciences, and makes it clear that we are looking for things that are both eternal and separate, presumably because we are looking for the ἀρχαί, the objects of wisdom.) B#6 asks whether the ἀρχαί of things are their material constituents, the στοιχεῖα of a physical λόγος, or their genera, the στοιχεῖα of a dialectical λόγος, and B#7 creates a dilemma within the "dialectical" side of B#6 by asking whether it is the higher genera or the lower species and differentiae which are prior and more ἀρχαί: if the higher genera are prior, impossible consequences result, and if the less universal things are prior, we have no ground for positing separately existing genera or species in the first place. As we have seen, Aristotle discusses all of these issues in Z10-12. Next, however, B#8 steps back from the issues about genera and species to ask whether there is anything beside (i.e. separate from) the individual things, it being assumed that those individuals are corruptible matter-form composites and that anything separate from them would be a universal; admittedly, if there are such separate universals, they would be either species or genera, and the considerations of B#7 would tell against them, but it is argued that without such separate universals--described also as forms or as what things are or come-to-be (τὴν οὐσίαν, ὃ ποτε ἐκείνη γίγνεται 999b14)--scientific knowledge and coming-to-be will be impossible. These Platonist arguments, then, do not distinguish whether the universal will be the total or partial οὐσία of the things that fall under it, and may even imply that it is the total οὐσία, even though that is a claim which, once made explicit, can be quickly refuted. So it is perfectly reasonable for Z13, putting aside the more sophisticated considerations of Z12, to raise the more basic issue of the universal as an alleged further οὐσία beside the individuals.

One of the Platonist arguments from B#8, namely that coming-to-be presupposes the prior existence of the essence, the predicate complement of the coming-to-be, has in fact been dealt with already, in Z7-9 (as we saw in IIγ2); but that argument, like the other arguments considered in Z4-9, did not turn on universality. But surely one reason the Platonists have for thinking that the essence of X is other than this X is not that this X has other attributes, or that this X came-to-be, but that there are also other X's, and that the essence of X (the object of the ἔξις, knowledge of X, which allows us to recognize each individual X as falling under the essence) must be equally related to all of them: since it cannot be identical to all of them, it must be other than all of them. However, such a positing of the one X over the many X's (whether the one X is the total or only a partial οὐσία of the many X's) immediately leads into several varieties of "hard one-many problem": the "third man" (mentioned Z13 1039a1-3, whichever variety of third man argument Aristotle may have in mind), but also whether there is a numerically single horse-itself in the many individual horses, or, if there are many, how they are related to the numerically single first horse-itself; whether there is a numerically single animal-itself in the many species of animals, or, if there are many, how they are related to the numerically single first animal-itself; and (familiar from Z12) how the animal-itself in horse and the quadruped-itself in horse are related to the numerically single horse-itself. All of these difficulties except the third man are, more briefly or more fully, raised in B#8 and B#9, and they are all taken up in Z13-15. As we will see, Z14-15 are closely continuous with Z13's raising of hard one-many problems against the Platonic thesis that the universal is the οὐσία of the things falling under it. It is often said that Z14 is a digression, a polemical application of the results of Z13 against the Platonic theory of ideas,⁶³ but Aristotle draws no distinction between the thesis that the universal is an οὐσία and the Platonic theory of ideas; the commentators seem to think the difference is Plato's additional commitment that the universal exists separately, but for Aristotle this is automatically entailed in being an οὐσία. The same misconception underlies the view (FP II,280, Burnyeat Map pp.50-51) that Z15 goes back to Z13 to address its final aporia against the possibility of definition, by saying that there cannot be definitions of individuals or at least not of material individuals (but presumably of their forms, whether universal or not)--although, as Ross remarks (AM II,211), if Z15 is supposed to be resolving this aporia, it does not do a very good job of it. In fact Z15 is more easily read as a straightforward polemical point against Platonic forms. A mirage of profound and obscure Aristotelian doctrine has been created around these chapters, on the assumption that they, and the rest of the main argument of Z, must be addressing central internal issues of Aristotle's positive ontology, and that everything else is a digression. Once we see the main argument of Z3-16 as critical and negative, and Z13-16 as formulating one-over-many difficulties against Plato and against the physicists (the twin targets of B#6), the mirage and its obscurities vanish.

The argument of Z13

It will help to talk first about the part of Z13 which applies exclusively to universals (1038b1-1039a3), and then about the shorter part which applies equally to dialectical, physical and mathematical στοιχεῖα, culminating in the aporia against the possibility of definition (1039a3-23). The first discussion has its own internal structure and is entirely self-contained, beginning with the motivation for examining whether the universal is an οὐσία and a cause and ἀρχή (1038b1-8, cited above), and summed up by the conclusion that no universal is an οὐσία, or,

⁶³so Ross AM I,cviii, FP II,264-5, most explicitly Burnyeat Map p.52

semantically put, that the things that are predicated universally signify not "this" but "such" (1038b34-1039a3). The second discussion begins as an appendix to the first, giving an additional argument in support of the conclusion that has been reached, but then, since the argument turns on considerations which are not exclusive to dialectical στοιχεῖα (and which are indeed supported by appeal to physical and mathematical examples), broader conclusions are drawn. What unites these two main parts of Z13 is not that they are both concerned with universals, but that they both turn on one-many problems (of various types) against a claim that X is either the whole essence or (more usually) a part of the essence of Y.

The first and larger part of Z13 (1038b1-1039a3) argues that, if X is predicated universally of Y and of other things (a universal is "what is of such a nature [πέφυκε] as to be predicated of several things," *De interpretatione* 17a39-40, recalled here 1038b11-12), then X is not the (whole) essence of Y, X is not an οὐσία at all, and X is not even a part of the essence of Y. As so often, the arguments take place in imagined dialogue with a Platonist opponent: if a stronger Platonist thesis is refuted, the opponent may retreat to a weaker version, and Aristotle will refine his argument to show that the opponent's concessions and reformulations do not succeed in avoiding the difficulty.

The first argument that, if X is predicated universally of Y and of other things, then X is not the (whole) οὐσία of Y, is that "the οὐσία of each thing is what is proper [ἴδιος] to each thing,⁶⁴ what does not belong to anything else, whereas the universal is common, for that is said to be universal which is of such a nature as to belong to several things. So which will it be the οὐσία of? Either of them all or of none of them, but it cannot be of all of them; [for]⁶⁵ if it is the οὐσία of any of them, then the others will be this same thing, for things whose οὐσία and essence are one are themselves one" (1038b9-15). Here, at the most obvious level, Aristotle is calling on the *Topics*' conditions for definition: for X to give the οὐσία of Y, it is necessary that X be a proprium of Y, i.e. that X be true of everything that is Y and of nothing that is non-Y. So if X is predicated universally both of Y and of Z, X cannot be the οὐσία of Y. We could also put this by saying that if X is the οὐσία of Y, and is therefore proper to Y, and is therefore not predicated of anything that is non-Y, and if X is also predicated of Z, then Z must be Y. However, Aristotle seems to be saying a bit more than this when he infers that "the others will be this same thing" [i.e. that Z will be Y], using not merely the premiss that X is predicated of Z, but the stronger premiss that X is the οὐσία of Z (by parity of reasoning, since it is the οὐσία of Y). As he says here, "things whose οὐσία and essence are one are themselves one"--as Δ6 explains more fully, "most things are said to be one through either producing or having or suffering some one other thing or through being related to some one thing {construal? does ἔν go also with ἕτερόν τι or only with πρός τι, and does πρός τι εἶναι ἔν mean being one in relation to something or being related to some one thing?}, but the things that are primarily called one are those whose οὐσία is one" (1016b6-9).⁶⁶ The underlying thought seems to be that if Y is X, not merely in the weak sense that X is an accident of Y, but in the strong sense that X is the οὐσία of Y, then the predication is reversible; so that by symmetry and transitivity, if both Y and Z are X in this strong sense, then Z is also Y and conversely. This explication places Aristotle's argument in the family of "sophistic" one-many arguments. The Megarians and Lycophron and Antisthenes think

⁶⁴note textual mess; the text of Ross and Jaeger seems like a reasonable guess

⁶⁵δ' has to be taken in the sense of γάρ, if we keep the text. note the *varia lectio* in E; it might also be possible to read γ', or even to delete πάντων δ' οὐχ οἷόν τε as a gloss {NB this duplicates a note from IIα3, make up your mind in one place and add a cross-reference in the other}

⁶⁶add something on being one in λόγος vs, by continuity?

that (two-place) being has only one sense and that it is symmetric and transitive, and they infer that if Socrates is white and musical, the white is the musical, or that if Socrates and Plato are white, Socrates is Plato; Aristotle solves these sophisms by distinguishing senses of (two-place) being, so that Y can be said to be X even if X is only an accident of Y (and this predication will not be reversible except per accidens), but in the case where X is the οὐσία of Y, he accepts the arguments as valid. (These are "one-many" arguments in the sense that in the first example Socrates, who is assumed to be one thing, would be shown to be many things, namely white and musical, and white and musical, assumed to be many things, would be shown to be one thing, namely Socrates; in the second example, Socrates and Plato, assumed to be many things, would be shown to be one thing, namely white, and the white, assumed to be one thing, would be shown to be many things, Socrates and Plato.)⁶⁷

The strategy of arguing, against the claim of the universal to be the οὐσία of the things falling under it, that things whose οὐσία is one would themselves have to be one, was sketched already in B#8, in its discussion of the claim that the universal exists as something besides and prior to the individuals and as their οὐσία--a discussion which, as we have seen, gives a charter for Z13. As B#8 objects against this Platonist claim, "will there be one οὐσία of them all, e.g. of all men? But this is absurd: for things whose οὐσία is one are one. Or many different οὐσία? But this too is unreasonable" (999b20-23).⁶⁸ Z13 expands on the first horn of the dilemma, but does not have anything immediately corresponding to the second horn.⁶⁹ But Z13 does add a brief supplementary argument, "again, it is what is not καθ' ὑποκειμένου that is called οὐσία, and a universal is always said of some ὑποκείμενον" (1038b15-16). This turns on the definition of a universal, as what is of such a nature to be predicated of many: if it is predicated of many, then certainly it is predicated of something, thus of some ὑποκείμενον (since κατηγορεῖσθαι and ὑποκεῖσθαι are correlative), and so it is not an οὐσία. But what is this supposed to add to the first argument? One advantage is that it does not need the premiss that X is predicated of Y as its οὐσία, but only that X is predicated of Y (indeed, it works better if X is not predicated of Y as its οὐσία, since we need X to be other than its ὑποκείμενον in order to infer that it is not an οὐσία). So if the Platonist takes the second horn of the dilemma offered in Z13, "which will it be the οὐσία of? Either of them all or of none of them," but still maintains that the universal is an οὐσία by itself, even if it is not the οὐσία of any sensible individual, then as long as the universal is still predicated of these things (as it must, by the definition of "universal"), this argument will refute him.⁷⁰ Another advantage of the second argument is that it needs only the premiss that X is said of Y, not that it is also said of Z; so if the Platonist takes the second horn of the dilemma offered in B#8, and solves the first argument by saying that the man predicated of Socrates and the man predicated of Plato are not numerically the same, but still maintains that they are οὐσία besides (and presumably prior to) Socrates and Plato, the second argument will

⁶⁷reference to other treatments; try to impose some order here. there's probably something in Iβ4c, something in Iγ1c [maybe also b?], and something in IIγ1a--something ought to be designated as the primary treatment, perhaps best Iγ1c

⁶⁸cited and discussed briefly (in relation to Z13) in IIα3, also check Iβ3

⁶⁹see Iβ3 (I think) for why the second horn is unreasonable: we're looking for things existing separate from and prior to the sensibles, and while there might be one eternal separate horse-form, it seems unreasonable to have existing from eternity infinitely many separate horse-forms with nothing to individuate them, or a separate Bucephalus-form waiting around from eternity in the hope that Bucephalus will instantiate it

⁷⁰however, the Platonist has a comeback if the universal is not predicated of the individuals except paronymously, in such a way that the ὑποκείμενον is not fire, but fiery in the category of quality or inflamed in the category of πάσχειν (Aristotle will then make the A9 point that the same things should fall in the same categories here and there, but this is dubious)

still refute him.⁷¹ (This may also be the place to consider another short argument given further down, "an οὐσία will be present in Socrates, so it will be the οὐσία of two things," 1038b29-30.⁷² This assumes that we are positing an οὐσία besides Socrates which is the οὐσία of Socrates, but it does not assume that it is also the οὐσία of Plato. We reach the same absurdity as the first argument of 1038b9-15, that two things have the same οὐσία, even without assuming that the οὐσία of Y and the οὐσία of Z are the same, so long as the οὐσία of X and the οὐσία of Y are the same and X is something besides Y. If the Platonist avoids the conclusion by saying that, although X is the οὐσία of Y, the οὐσία of X is something yet further, then he falls into another one-many problem, the third man regress of essences sketched in Z6 [see IIγ1a above].)

Aristotle next considers, for the remainder of the first main part of Z13 (1038b16-29), another Platonist concession and weaker reformulation of the original claim that a universal is the οὐσία and ἀρχή of the things falling under it: "perhaps it is impossible [sc. for the universal to be οὐσία] as the essence, but it is present as a constituent [ἐνυπάρχει] in the essence, as animal is in man and horse" (1038b16-18, cited above). Presumably the thought is that while the essence of Y, as expressed by the definition of Y, must be proper to Y, and so the various predicates contained in the essence must jointly be proper to Y, they need not singly be proper to Y: perhaps "wingless biped animal" is true only of human beings, but there are other wingless things, other bipeds, other animals. So, just as animal is a constituent in the essence of horse, perhaps horse is a constituent in the essence of Bucephalus, and is the οὐσία of Bucephalus in the third sense of οὐσία from Δ8; this proposal seems immune at least to the argument of 1038b9-15 against the claim that horse is the οὐσία of Bucephalus in the fourth sense of οὐσία from Δ8, the essence. It will not solve the argument of 1038b15-16 that the universal cannot be an οὐσία at all, but the opponent may say that the universal is an ἀρχή and partial οὐσία of individual οὐσίαι without itself being properly an οὐσία; this issue will return below.

Aristotle gives two replies, trying to show that the opponent's reformulation does not escape the force either of the first argument of 1038b9-15 or of the second argument of 1038b15-16. To the first: even if X, predicated universally of Y and other things, is not the whole essence of Y but merely a constituent in the essence of Y, "it is clear that it [sc. X] is some λόγος of it [sc. Y] {note two issues, ἐστὶ personal or impersonal and Jaeger's emendation ἔσται}. It makes no difference if it is not a λόγος of all of the things in the οὐσία: it will nonetheless be the οὐσία of something, as man is of the man in whom [the universal man] is present, so that the same thing will again result: for it will be the οὐσία of that in which it belongs as a proprium {two textual issues, the animal example and εἶδει}" (1038b18-23). Thus "biped animal" is not a definition of man, because it is not a λόγος of all of the things in the essence of man (and this is why it can also be predicated of chicken), but it is still a λόγος of some of the things in the essence of man, and it will be the essence of those things in man of which it is a λόγος; as before, the essence must be proper to what it is the essence of, and so the old contradiction recurs if biped animal is the essence of something in man and is also the essence of something in chicken, or if man is the essence of something in Socrates and is also the essence of something in Xanthippe. Now at first this argument might seem unwarranted in assuming that a partial λόγος of Y is a λόγος of a part of Y--why should an indefinite description of me be a definite description of a part of me? But

⁷¹here too the Platonist has a comeback if the individual οὐσία is predicated of a ὑποκείμενον which is not a this, in the way Aristotle discusses in Θ7 (see IIβ2 above), expressed by phrases like "the brazen is a statue." but this kind of individual substantial form predicated of its matter Aristotle simply accepts; he thinks, however, that it is inseparable from its matter and so cannot exist prior to it

⁷²note textual issue; perhaps "there will be an οὐσία present in the οὐσία Socrates"--a case where it would be good to check all manuscripts

this is just what the Platonist opponents are proposing: that something logically contained or presupposed in the definition of Y (biped animal in wingless biped animal, three in plane figure bounded by three straight lines) will not be simply a verbal formula holding true of Y, but will signify a distinct object, a στοιχεῖον of Y or some στοιχεῖα of Y. So, in discussion with these opponents, Aristotle is justified in inferring that a partial λόγος of the essence of Y which is also a partial λόγος of the essence of Z would be a total λόγος of the essence of some part of Y, and therefore proper to that part of Y, while also being a total λόγος of the essence of some part of Z, and therefore proper to that part of Z. The real problem for Aristotle's argument is that this does not yield a contradiction, if it is possible for some part of Y also to be some part of Z, and this is presumably what the Platonist opponent will claim. This issue will become explicit in Z14 in the case where Y and Z are species, where Aristotle asks whether the genus-Form animal which is a constituent of the species-Form man is numerically identical with the genus-Form animal which is a constituent of the species-Form horse. Presumably he thinks that the same considerations showing that man and horse do not contain a common part will also show that Socrates and Xanthippe do not contain a common part. He does not feel the need to rehearse the considerations separately here, because he has said enough to evoke a very familiar kind of one-many argument, that if X is present as a whole both in Y and in Z, "then being one and the same, it will as a whole be simultaneously in many separately existing things, and thus it would be separate from itself" (Parmenides 131b1-2), having contrary attributes in Y and in Z and so on. Aristotle's task here is simply to remind the reader that the Platonist's reformulation at 1038b16-18 does not avoid such arguments.

Aristotle also wants to show that the Platonist cannot evade the force of the argument of 1038b15-16, that the thing universally predicated is καθ' ὑποκειμένου and therefore not οὐσία, by saying that X can be an ἀρχή and partial οὐσία of individual Y and Z without itself being properly an οὐσία. "Also, it is both impossible and absurd that 'this' and οὐσία, if it is out of any things, should be not from οὐσία or from 'a this' but from a such" (1038b23-5)--as it would be if the opponent concedes that what is predicated universally signifies not "this" but "such"--"for non-οὐσία and 'such' will be prior to οὐσία and 'this,' which is impossible: for affections cannot be prior to οὐσία either in λόγος or in time or in coming-to-be,⁷³ for they would also be separate" (b26-9). Now the premiss that X is not separate from Y and Z can only be intended to argue for the conclusion that X is not prior to Y and Z in time or in coming-to-be, not for the conclusion that X is not prior to Y and Z in λόγος.⁷⁴ Aristotle himself believes that animal is not separate from dog and horse, but that it is nonetheless prior to dog and horse in λόγος. So, while Aristotle has a good argument that a universal which is not itself an οὐσία cannot be an ἀρχή of οὐσία (and this parallels and fills out the argument of the first half of B#15 that the ἀρχαί are not universals, 1003a7-12, also developed M10 1086b37-1087a4),⁷⁵ he does not seem to have a

⁷³ οὔτε λόγῳ ... οὔτε χρόνῳ οὔτε γενέσει, where χρόνῳ and γενέσει must be synonymous. A.R. Lord, reported in Ross ad locum, and now followed by Frede-Patzig, proposed οὔτε γνώσει in the hope of having three genuinely different assertions, as at Z1 1028a32-3, where οὐσία is prior to things in the other categories καὶ λόγῳ καὶ γνώσει καὶ χρόνῳ, and Aristotle does indeed seem to be referring back to that passage here. {if priority γνώσει there is anything other than priority λόγῳ--elsewhere priority λόγῳ seems to be equivalent to priority γνώσει, by nature as opposed to for us--it can refer only to what is argued for at 1028a36-b2, that we know X more when we know what it is then when we know some accidental predicate of it. perhaps that's applicable in the Z13 passage: since I know X more when I know what it is, knowing universal predicates of X, if they are conceded not to be its οὐσία, cannot add up to give knowledge of X.}

⁷⁴contrast FP's absurd comments on Z1 1028a31-b2, referring to the present text {did I discuss these in IIα? if not, I should}

⁷⁵cite full discussion elsewhere

good argument here that a universal which is not itself an οὐσία cannot be a prior in λόγος to οὐσία. He might try to fill out the argument with the thesis of Z1 1028a34-6 and Z5 that the λόγος of the accidents must involve that of the underlying οὐσία as the λόγος of snub involves that of nose; but of course Aristotle himself does not believe that animal is dependent on horse, or horse on Bucephalus, in this way. He would do better to avoid the claim that a universal "affection" must be posterior to the underlying οὐσία in λόγος, and to claim only that it cannot be prior in λόγος, i.e. that it cannot be a constituent in the λόγος of the οὐσία, since no number of suches can add up to an account of what a this is; if the constituents of the λόγος of the thing are suches, then the thing itself will also be a such. And this is sufficient as an argument against the Platonist opponents, who want to discover ἀρχαί (and at least partial οὐσία) by finding the constituents in the λόγος of an οὐσία. However, as Aristotle will point out a bit further down (1039a14-20), this leaves an aporia: if the constituents of the λόγος of the οὐσία cannot be universals and thus suches, and if there are other grounds for saying that they cannot be thises, does it follow that there can be no λόγος of an οὐσία at all? And, since Z4-6 have argued that the λόγος of a non-οὐσία is not a definition (or is a definition only in a derivative way), does it follow that there are no definitions at all?

This aporia will dominate the rest of Z13-16, and its solution will dominate the rest of ZH. But first Aristotle needs to argue for the premiss that the constituents in the λόγος of an οὐσία cannot be thises. In a sense, he has already stated and argued for this premiss on the way to the conclusion that a universal is not a this but a such ("it follows, if man, and whatever is said in this way, is οὐσία, that none of the things in the λόγος is the οὐσία of anything or exists separate from them or in something else: I mean, for instance, that there is no animal apart from the particular [animals], nor any other of the things in the λόγοι. From these things it will become clear to who consider that none of the things which belong universally is an οὐσία, and that none of the things which is predicated in common signifies a this, but rather a such," 1038b30-1039a2, partly cited above).⁷⁶ But he wants to argue for the premiss in a way that holds for all constituents in the λόγος of an οὐσία, not only for universals, because he wants the resulting aporia to apply not only to dialectical but also to physical λόγοι, to address both sides of B#6 together.⁷⁷

The argument that the constituents are not actual οὐσία, and the aporia

Aristotle starts by presenting his new argument as a supplementary consideration to support a thesis he has already proved ("this is clear also in the following way," 1039a3). It is not entirely clear what this thesis is: probably that the universal is not an οὐσία, or that none of the parts of

⁷⁶or "both from these things will it become clear to who consider that none of the things which belong universally is an οὐσία, and from because none of the things which is predicated in common signifies a this, but rather a such" (so Ross and Frede-Patzig): it depends on whether τε in 1038b34 is picked up by καὶ at the end of b35, or rather by the δὲ in 1039a2 or the δὲ in 1039a3. it seems more natural to take ὅτι ... καὶ ὅτι in 1038b35-1039a1 together rather than giving them different constructions, and it seems too trivial to infer from the premiss that the common predicate does not signify a such to the conclusion that what belongs universally is not an οὐσία, but perhaps Aristotle sees this as giving a semantic argument for an ontological conclusion (though if so he does not consistently distinguish between the semantic and the ontological levels). then the mention at 1039b2-3 of the third man and other absurdities would be a support specifically for the semantic assertion of 1039a1-2, which would in turn support the ontological assertion of 1038b34-5

⁷⁷a loose end. I discussed briefly above the quick argument "an οὐσία will be present in Socrates, so it will be the οὐσία of two things" (1038b29-30). but if, as now seems to me likely, he is taking up B#15, then this may be intended as a restatement or replacement of the (cryptic) argument of 1003a9-12--d reconsider

the λόγος are οὐσίαι, and Aristotle has indeed argued for these theses already (although he has also argued that the λόγος of the οὐσία cannot be out of parts which are mere suches). He now adds:

This is clear also in the following way. It is impossible for an οὐσία to be out of οὐσίαι present in it [ἐνυπαρχουσῶν] in actuality: for things that are two in actuality are never one in actuality, but if they are [only] potentially two they will be one (as the double [line] is out of two halves, in potentiality; for actuality separates). Thus if the οὐσία is one thing, it will not be out of οὐσίαι that are present in it [ἐνυπαρχουσῶν] and [composed out of them], in the way that Democritus correctly describes: for he says that it is impossible for one thing to come-to-be out of two or two out of one: for he makes the indivisible magnitudes the οὐσίαι. So it is clear that it will be likewise with number, if number is a combination of units, as some people say: for either the dyad is not one thing, or no unit is present [ἔνεστι] in it in actuality.⁷⁸ (1039a3-14)

This argument is supposed to apply equally to different kinds of parts of the λόγος. Aristotle illustrates with the example of Democritean atoms, thus going back to the origins of the philosophical metaphor of στοιχεῖα and reminding the reader that Democritus saw the atoms not merely as material constituents, but also as parts of the physical λόγος of the compound. Democritus is praised for seeing clearly that, if these στοιχεῖα are actual οὐσίαι present in the compound, the compound will not also itself be truly one thing. A Platonist, interested in what makes each thing one, might be expected to deplore this Democritean conclusion as a reductio ad absurdum of the folly of seeking the ἀρχαί as the ultimate physical constituents of things. But Aristotle's point is that the Platonists are in the same difficulty themselves, most obviously with mathematical στοιχεῖα such as the units within a number ("so it is clear that it will be likewise with number"; Aristotle will come back to accuse the Platonists of being unable to explain what makes each number itself one thing, H3 1044a2-5, A10 1075b34-7;⁷⁹ note that the mathematical example of the half-line was one of Aristotle's core examples of something being present only in potentiality, Δ7 1017b6-9). And the Platonist, who thinks that these στοιχεῖα are eternal and unchangeable (and στοιχεῖα of an eternal and unchangeable compound) cannot say that they are only potentially present. But the Platonist will also encounter the same difficulty for the genera and differentiae in a dialectical λόγος, if he conceives these as numerically single eternal οὐσίαι, combining in the intelligible world analogously to the way that Democritean atoms are supposed to combine in the sensible world. We have, of course, seen this analogy before: B#6 considered physical and dialectical στοιχεῖα in parallel, and B#9 asked whether the στοιχεῖα (implicitly understood to be the στοιχεῖα of dialectical λόγοι) are each numerically one, or rather are many-per-type like the στοιχεῖα of sensible things. Now Aristotle is drawing on the analogy, in keeping with the program of Z13-6, to raise a "hard one-many problem" which the Platonists will have to confront even if they can solve the "easy one-many problems" about sensible things. Z13 has already been developing "hard one-many problems," in arguing, for instance, that if the universal, posited as a one-over-many, were the οὐσία of its many individuals or many species, then it would itself be many (and the third man would also be a "hard one-many problem").

⁷⁸preferring ἔνεστι EJ to ἔστι Ab, but it doesn't matter; think whether you have something to say about the two οὕτως ὥς issues near the beginning of the passage

⁷⁹also MN citations? also cite H6?

However, these are problems about the unity of an ἀρχή or στοιχεῖον that the Platonists posit existing prior to the thing to be defined; now, by contrast, the difficulty is that, if these στοιχεῖα are each one actual οὐσία, the composite definiendum will itself be many and not one. Aristotle had already raised a problem of this kind in Z12: how is the dialectical definition one and not two, animal and biped? But there the problem was a development of the problem that, as we saw, goes back to B#9: how can a numerically single α both be united to β in $\beta\alpha$ and be united to γ in $\gamma\alpha$ (that is, how can animal be united both to biped in man and to quadruped in horse)? We can think of this either as a problem about the unity of the α in $\beta\alpha$ and the α in $\gamma\alpha$ or as a problem about the unity of the α in $\beta\alpha$ and the β in $\beta\alpha$: the point is that the two kinds of unity are incompatible, and that the Platonists are committed to both. Now, however, Aristotle is saying that if we assume that α and β are each actual οὐσία (as they must be if they are ἀρχαί), then there is a problem about the unity of $\beta\alpha$, completely apart from any considerations about $\gamma\alpha$. And just as the problem about animal having different and contrary attributes, biped and quadruped, is a recurrence among Forms of the "easy one-many problem" about sensibles that "I, Protarchus, being one by nature, am also many and contrary to each other, positing them the same person is great and small and heavy and light [presumably in different relations] and countless other things" (*Philebus* 14c11-d3, cp. *Parmenides* 128e5-129b1), so the problem about biped animal being both one and many is a recurrence among Forms of the "easy one-many problem" about sensibles which arises from "dividing in λόγος each person's limbs and parts and agreeing that all these things are that one thing ... [so that] the one is many and infinite, and the many are one alone" (*Philebus* 14e1-4, cp. *Parmenides* 129c4-d6).⁸⁰ Aristotle agrees with Plato that to be a whole of parts is to be both one (i.e. the one whole) and many (i.e. the many parts), and therefore to have contrary attributes; unlike Plato, he does not think the problem can be solved by saying that the thing simply participates in contrary forms. Rather, he thinks the contrariety is intolerable unless the thing is actually one and only potentially many (or actually many and only potentially one). One consequence is that if $\beta\alpha$ is actually one οὐσία, β and α cannot be actual οὐσῖαι present in $\beta\alpha$, but must be merely potential, and therefore cannot be ἀρχαί of $\beta\alpha$. A further consequence is that if $\beta\alpha$ is an eternal unchangeable οὐσία, it cannot be a whole of parts, since it cannot be potentially many, since it cannot be potentially anything other than what it is actually. Thus if something is an eternal unchangeable οὐσία, it must be entirely simple and without a λόγος, and if something has a λόγος, it cannot be an eternal unchangeable οὐσία.

Here he states the difficulty as an aporia against the possibility of giving any kind of definition:

But what results involves an aporia. For if neither can any οὐσία be out of universals, on the ground that [a universal] signifies a such rather than a this [and, Aristotle has argued at 1038b23-29, an οὐσία or this cannot be out of non-οὐσῖαι or suches, since then "a non-οὐσία and a such would be prior to an οὐσία and a this"], nor can any οὐσία be a composite out of οὐσῖαι in actuality, then every οὐσία would be incomposite, so that there would be no λόγος of any οὐσία. But it seems to everyone, and we have said before, that there is a definition either only or chiefly of οὐσία; and now [it seems] that [there is definition] not even of this;

⁸⁰note Harte's way of distinguishing the two hard one-many problems {i.e. these two--there are others, such as the third man}. note the one-being as an example of how a form would have to be both one and many, not by being by predicated of many things or combining with many other forms, but by having a complex internal structure, treated as analogous to a body's structure of spatially extended parts

so there will be no definition of anything {1039a14-21; q add final bit?}

This is an aporia, of the same family as B#15, about whether the ἀρχαί are thises or suches: one side argues that if the ἀρχαί were not thises, the things that come from them would not be thises either; then the other side argues that, given some assumption about how the ἀρχαί relate to the posterior things, the ἀρχαί cannot be thises. However, here the responsible assumption is not that the ἀρχαί are universally predicated of the posterior things, or that each of the ἀρχαί belongs to many posterior things, or (as in B#11) that the one is an ἀρχή of numbers, but the more fundamental assumption that the ἀρχαί are parts, or specifically parts of the λόγος, of the posterior things. Aristotle thinks that, on this assumption, the aporia is indeed unsolvable; and so he presents it as a challenge against the possibility of giving a λόγος of any this (and thus against against the possibility of definition), always on the assumption that the parts of a λόγος are ἀρχαί existing prior to the thing. He will use the aporia to motivate, both a conception of the ἀρχαί as extrinsic to the thing, and a different conception of how the parts in the λόγος function, and thus a different conception of definition.

The idea of raising a difficulty against giving a λόγος of a thing, arising from the identity of the one whole with the many parts into which it is spelled out, seems to come from the Theaetetus, and the Theaetetus' discussion of syllables and στοιχεῖα will remain in the background for the rest of ZH.⁸¹ (At 1039a11-14 Aristotle is surely thinking, at least inter alia, of the argument at Theaetetus 204b10-e6 that a number is identical with its many units, and rejecting its conclusion.) But the way Aristotle's argument works is significantly different, and, in particular, is purely ontological rather than epistemological. The Theaetetus, in examining the proposal that we know a thing by giving a λόγος which answers τί ἐστὶ by "giving the questioner the answer through the στοιχεῖα" (206e6-207a1; thus the λόγος of the first syllable of Socrates' name, the answer to "τί ἐστὶ ΣΩ;", is "that it is sigma and omega," 203a6-10), asks whether the whole, the syllable, is the same as or other than all of its parts, the στοιχεῖα. If the syllable is the same as the στοιχεῖα, and if the syllable is knowable, then the στοιχεῖα must also be knowable (203c4-d10), whereas on the proposal we are considering they must not be knowable, since being simple they have no λόγος. However, if the syllable is other than all the στοιχεῖα, or other than the "all" (τὸ πᾶν = τὰ πάντα) composed of the στοιχεῖα, but is rather "some one form that comes-to-be out of each of the στοιχεῖα when they are fitted together" (204a1-2), then the syllable too will be simple and will not have a λόγος, and so will be unknowable like the στοιχεῖα, contrary to assumption (205c1-e4). Aristotle's treatment of the first branch of the dilemma is like Plato's in drawing inferences of the form "the στοιχεῖα are collectively P, therefore the syllable is P," namely that if the στοιχεῖα are suches, then the syllable is such, and if the στοιχεῖα are actually many thises, then the syllable is actually many thises; but these inferences are purely ontological, and the conclusions are objectionable on ontological grounds, whereas Plato draws the epistemological inference "the στοιχεῖα are unknowable, therefore the syllable is unknowable."⁸² In the second branch of the dilemma Aristotle reasons in much the same way as Plato, that if the syllable is not the στοιχεῖα (neither these particular στοιχεῖα which have been proposed, nor any other στοιχεῖα), then it is in effect a further στοιχεῖον, simple and unanalyzable and ἄλογον; for Aristotle as for Plato this is objectionable on epistemological grounds, as giving up on the possibility of definition and thus

⁸¹references to earlier discussions if any: I hope I said something about this in talking about B#6-9 in Iβ3, perhaps also something in IIα3. if not, some discussion of Theaetetus H3 should be inserted somewhere

⁸²mainly put in the contrapositive, "if the syllable is knowable, the στοιχεῖα are knowable"

of scientific knowledge. Aristotle's solution will depend on saying that the syllable is one and many only by being actually one and potentially many, actually one syllable and potentially many στοιχεῖα, so that the στοιχεῖα collectively are only potentially one οὐσία, and the syllable will be something besides the στοιχεῖα, namely the actuality of this potentiality of the στοιχεῖα; such a syllable will not be ἄλογος, but will have a λόγος expressing both the στοιχεῖα and their actuality. Or so Aristotle will argue in Z17-H, and he will try to show that given this understanding of the relationship between the στοιχεῖα and the syllable it is possible both to resolve the aporia about whether the parts of the λόγος are thises or suches, and to give a method for finding the λόγος of a thing; but the parts of a λόγος found in this way will not be ἀρχαί existing prior to the thing. For Z14-16, however, he deliberately defers the solution to the aporia (both the aporia whether the parts of the λόγος are thises or suches, and the aporia how, if neither of these is possible, anything can be defined), preferring instead to draw negative consequences from this family of one-many problems against the candidates of both the physicists and the dialecticians to be οὐσίαι as parts of the λόγος.

Z14-16: Against dialecticians and physicists on parts of the λόγος as οὐσίαι and ἀρχαί

In Z14 he is arguing specifically against the dialecticians, i.e. against those who think that the genera and the differentiae are parts of the λόγος of the species, and that the genera and differentiae are thises and constituents of a composite this. He is thus challenging the Platonist answer to B#6 by raising difficulties about whether the genera and differentiae can combine as στοιχεῖα to constitute syllables in the way the Platonists require. He had begun raising such difficulties in Z12 and continued in Z13. But where in Z12-13 the challenge was focussed on the unity of α and β in $\beta\alpha$, now it is focussed on the unity of the α in $\beta\alpha$ and the α in $\gamma\alpha$. As we have seen, the issues are connected. In Z12, the main difficulty against the animal in man and the biped in man being united (in such a way that the λόγος "biped animal" would be a λόγος of a single οὐσία) was that one and the same animal could not simultaneously be united to biped (in man) and to quadruped (in horse), where what it meant for animal to be united to biped was simply for that animal to be a biped. For the purposes of constructing the aporia of Z12, Aristotle takes as a background assumption that it is the same animal in man and in horse, and given this assumption asks how the definition of man can be the λόγος of a single οὐσία; this is supposed to lead the reader to accept the solution that the genus doesn't exist παρά the species, or only as matter, and thus to give up on the genus as ἀρχή and οὐσία. Z13 1039a3-14 raises another difficulty against the unity of a definition that does not need to assume that it is numerically the same animal in man and in horse, as long as these animals and the differentiae added to them are thises. But Z14 goes back to the same contradiction that was discussed in Z12, but constructs its aporia differently, taking as background assumptions that animal is genuinely united to biped in man, and that animal is genuinely united to quadruped in horse, and that these genera and differentiae are thises and constituents of a composite this: "it is clear from these same [considerations given in Z13] what results also for those who both say that the ideas are separate οὐσίαι and at the same time make the form/species out of the genus and the differentiae" (Z14 1039a24-26). Given these assumptions, Z14 raises difficulties for the thesis that the animal in each case is numerically the same, and then also raises difficulties for the alternative thesis that these animals are numerically many.

If there is some man himself by himself, a this and separate, then the things out of

which [this man is constituted], such as animal and biped, must also signify a this and be separate and οὐσία: thus also animal. So if the [animal] in horse and in man is the same and one, in the way that you are with yourself, how will what is in things that exist separately be one, and why won't this animal also be separate from itself? Furthermore, if it is going to participate in biped and in many-footed, something impossible follows, for contraries will belong simultaneously to the same thing, it being one and a this; but if it does not [participate in these differentiae], then what is the manner [of predication] when someone says that animal is biped or footed? Perhaps [the genus and the differentia] are "composed" or "in contact" or "mixed"? But all these are absurd. Rather [the genus animal] is different in each? Then the things whose οὐσία is animal will be so-to-speak infinite: for it is not per accidens that man is out-of animal. Again, the animal-itself will be many: for the animal in each [species] will be an οὐσία (for [the animal in each species] is not said of something else {reading κατ' ἄλλου J against κατ' ἄλλο E Ab}),⁸³ and if it were, man would be out of that [underlying substratum of the animal in man] and that would be his genus), and furthermore all of the things out of which man [is constituted] will be ideas; but it will not be the idea of one thing and the οὐσία of another (for that is impossible), so each one of the [genera animal] in the [many species of] animals will be an animal-itself. Further, what will this [one of the many animal-itselfs] be out of, and how will it be out of [the one first] animal-itself? Or how can there be an animal, whose οὐσία is just this [sc., animal], beside the [one first] animal-itself? And further, in the case of sensible things, these things will follow and also others yet more absurd. So if it is impossible for things to be thus, it is clear that there are no forms of these things in the way that some [= Platonists] say.⁸⁴ (1039a30-b19)

Here Aristotle is clearly taking up the ninth aporia of Metaphysics B, asking whether στοιχεῖα such as the genus animal are numerically one (that is, one στοιχεῖον per type) or numerically many (many στοιχεῖα per type), and he is using it to undermine the Platonist answer to the sixth aporia. At a general level, Aristotle's strategy here is the same as in the seventh aporia and indeed in the arguments of the On Ideas summarized in A9 and M4-5: the same motivations which lead the Platonists to posit separate one-per-type forms in some cases should also lead them to posit separate one-per-type forms in other cases, notably the most universal predicates; if we posit separate one-per-type forms in these further cases too, then contradictions arise (either contradictions simply from positing these further forms, or contradictions between these forms and the original class of forms); but if we do not posit separate one-per-type forms in these cases, then we undermine the motivation for positing such forms even in the original cases. A very similar strategy is pursued in the eleventh aporia: if we posit number as "a separate nature of beings" (B#11 1001a25-6), then we must also posit that the one is an οὐσία, but if the one is an οὐσία, then there can be no plurality of units and thus no numbers (an argument that will be developed with exquisite variations in M6-9α). And M10 will extract the common strategy from the argument about genera and the argument about units, arguing that if στοιχεῖα are many-per-type, syllables will also be many-per-type, and that if στοιχεῖα are one-per-type there will be no

⁸³check other MSS and translations and editors, it would be nice if M or C agree with J, otherwise stemmatically the reading of E might have to be archetypal but it remains unintelligible

⁸⁴{note some textual and construal troubles, esp. in line 15}

syllables.⁸⁵ All of these can be described as problems about the downward way, making the argument that, even if we can argue up to such στοιχεῖα as the Platonists describe, we will not be able to get back down from them to derive the syllables from which we started.

However, as we have seen, these arguments are also "hard one-many problems," and this means that they are moves within a game that began with the sophisms posed by the Megarians (or Antisthenes or Lycophron) against predication.⁸⁶ These sophisms typically assume that the only meaning of two-place being is identity and that it is therefore symmetric and transitive, and thus argue from commonly admitted predications to absurdities: e.g., Socrates is white, Socrates is musical, therefore white and musical are one and the same; or if white and musical are many, Socrates is many. For the Megarians (and Antisthenes and Lycophron) the solution is to deny the commonly accepted premiss that (e.g.) Socrates is white, perhaps distinguishing this false assertion from the true assertion that Socrates whitens or that Socrates white.⁸⁷ Plato rejects this distinction, and so takes the sophisms as aporiai against the possibility of any meaningful (non-tautological) assertion, but he also thinks these aporiai are easy to solve. Thus the Philebus says that the "θαυμαστά" that each human being has many and even contrary attributes, and the like, are "childish and easy" (14d7), and when in the Parmenides Zeno argues that each of the many sensible things must have contrary attributes, Socrates says that this is nothing θαυμαστόν (129b1), and explains it by saying that each sensible thing can participate simultaneously in many and even contrary forms.⁸⁸ So the sense in which this "easy" one-many problem is easy is that it can be solved by positing the forms. The Megarian or other opponent may concede that, but will try to show that the theory of forms lays itself open to new and improved versions of the sophisms which cannot be so easily solved. Plato is conceding this point when he says in the Philebus that more difficult problems arise when what is posited to be one is not a perishable thing but a form such as man or beautiful, in particular, whether each of these becomes many by being divided up among the infinitely many generable things that participate in it, or whether it is "separated from itself" by being present as a whole in each of its participants (so 15a1-c3). Likewise in the Parmenides Socrates says that "if someone showed that the genera and forms in themselves suffer these contrary affections, that would be worthy of θαυμάζειν" (129c2-3), and Parmenides cheerfully obliges with a string of arguments that the F-itself is in various ways both one and many or admits contrary attributes. One way that Parmenides argues that the F-itself, posited to be one, is also many, is to show that the same reasons that lead us to posit an F-itself beside the many F's would also lead us to posit an infinite regress of further F-itselfs, and we have seen that Aristotle adapts this strategy in Z6, where he argues that if Plato solves the Megarian aporia at the beginning of the chapter by distinguishing in each case between the thing that is F and the essence of F, there will be an infinite regress of distinct essences of F (Iγ1a above). Another way that Parmenides argues that the F-itself is not only one but also many is by using the dilemma also referred to in Philebus 15a1-c3, whether the form is divided up between many sensible things that each possess a part of it, or whether it is separated from itself by being present as a whole in each of them, and Aristotle is referring to this and related arguments in

⁸⁵detailed discussion in Iγ2d. the discussion is made more complicated here by Aristotle's apparently considering three options, that στοιχεῖα are one-per-type thises, that they are many-per-type thises, and that they are suches

⁸⁶see whether I've got some primary account of this back-and-forth to which the reader can be referred each time it comes up

⁸⁷references for all this above, Physics I,2, Z6, the Simplicius bit (I think cited on Z6) etc.

⁸⁸in both passages Socrates lumps together showing that a sensible thing has a plurality of attributes, that it has contrary attributes, and that it has a plurality of parts. cp. also Sophist 251a-c. some of this cited in the previous superparagraph

shorthand, without feeling a need to make such familiar arguments explicit, at Z14 1039b16-17 ("and further, in the case of sensible things, these things will follow and also others yet more absurd").⁸⁹ However, it is easy to imagine a Platonic solution to this argument: a sensible F isn't really F (in the τί ἐστὶ) but merely F-like (in the ποῖόν ἐστὶ), thus it merely imitates the F-itself and does not have the F-itself present within it either in whole or in part, and so no dilemma arises. Presumably one reason why Aristotle dwells so much on problems of genus-forms and species-forms, rather than on problems of forms and sensible participants (so that the main difficulty in Z14 is for "those who both say that the ideas are separate οὐσίαι and at the same time make the form/species out of the genus and the differentiae," not for those who merely posit separate ideas), is that in these cases it is extremely implausible to solve the problem by saying that horse only imitates animal, or is an animal only in the ποῖόν ἐστὶ and not in the τί ἐστὶ. And presumably this is why the Platonists do indeed say that the genera and differentiae are present in the species-form and that it is composed out of them as constituents. Z13 had given closely related hard one-many arguments against a universal being either the whole οὐσία, or a part of the οὐσία, of its individual tokens, but the Platonist can respond by denying that the species-form is properly the οὐσία of the individual or predicated of the individual at all, that it is simply another separate οὐσία (and indeed Aristotle thinks that this is at least the unacknowledged Platonist position: "thinking that we [Platonists] are naming οὐσίαι of these [sensible] things, we say that there are other οὐσίαι: but as to how these should be οὐσίαι of those, we are talking vacuously, for 'participation,' as we have said before, is nothing," A9 992a26-9). But Z13's question whether the universal is the οὐσία of the individual token is not much more than a parenthesis in the ongoing inquiry whether the parts of a physical or dialectical λόγος of X are στοιχεῖα and ἀρχαί separate and prior to X; and, in the case where X is a species-form and the parts of the λόγος are its genera and differentiae, the Platonists will not be able to avoid this question and the hard one-many problems that it gives rise to.⁹⁰

To avoid the conclusions that the genus, being a single this, is "separated from itself" in the many species (1039a33-b2) or admits contrary attributes (i.e. the differentiae, if it is biped in man and quadruped in horse, 1039b2-4), Aristotle considers two types of Platonist solutions. In both cases, though, he takes for granted that it is correct to say "animal is biped," and that this correctness is presupposed in the definition of man, that otherwise to participate in man, i.e. in biped animal, would be to participate in two distinct forms and not in any one form.⁹¹ What is in dispute is what ontology of animal and biped underlies the correctness of the assertion that animal is biped. The first solution tries to reconsider how the things signifies by "animal" and "biped" must be related. "If [the genus animal] does not [participate in its differentiae], then what

⁸⁹with "separated from itself," here and in Z14 as cited above, cp. the sophism that Simplicius attributes to the Megarians, concluding that an ordinary sensible object under two different descriptions is "separated from itself"

⁹⁰by which I do not mean that they are necessarily committed to the claim that the genus is prior to the species; as we have seen, Xenocrates denied it, and said that the genus was a whole composed of, and posterior to, its species-forms. but this is a very odd corner for a Platonist to be in, and the arguments of Z14, and similar hard one-many problems, help to show why Xenocrates may have felt himself forced into it, in a way that he did not feel himself forced to deny the priority of species-forms over their sensible tokens

⁹¹{Compare Z15 1040a15-17: Aristotle has argued that no individual, and thus no Idea (which according to the Platonists must be an individual), can be defined, since any description that applies to it will also apply to something else. A Platonist replies that, while "animal" and "biped" and so on will each singly apply to things other than the Form Man, the conjunction of all of them will not. Aristotle replies that in fact "biped animal" will apply, not only to the Form Man, but also to its constituents, the Form Animal (or the Animal that is in Man) and the Form Biped (or the Biped that is in Man). What Aristotle is presupposing here is that, for Biped and Animal to together constitute a single essence Man, the Animal in question must be biped (and must therefore be a biped animal).}

is the manner [of predication] when someone says that animal is biped or footed? Perhaps [the genus and the differentia] are 'composed' [σύγκειται] or 'in contact' [ἄπτεται] or 'mixed' [μέμικται]?" These are all attempts to explain how a single στοιχείον-form, animal, can be simultaneously a member of several syllable forms, biped-animal and quadruped-animal, without simultaneously having contrary attributes. Plato or Platonists had certainly tried all of these descriptions, both "participation" and its alternatives: the Sophist, using a variety of terms without clear distinctions, uses forms of μετέχειν (251e10), and of μείγνυσθαι or συμμείγνυσθαι (251d7, 252b6, 252e2), for relations between forms that arise in predication, and προσάπτειν or συνάπτειν in the active (251d6, 252a9, 252c5) for what we do to two forms in predication ("composed," which might seem the most obvious description, seems to be the hardest to document, although Plato speaks of a definition as "composed out of nouns and verbs," Seventh Letter 342b6-7, and Socrates' dream in the Theaetetus says that things are "composed" out of στοιχεῖα, which might be the genera, 201e2).⁹² Aristotle rejects all these alternatives to participation as absurd, here as applied to genera and differentiae and then later in MN as applied to the units within a number or to the one and a material principle of numbers (μέθεξις, ὀφῆ, μίξις, θέσις, of the units, M7 1082a15-26; μίξις, θέσις, κρᾶσις, of the one and a material principle, M9 1085b4-12; μίξις, σύνθεσις, of the one and a material principle, N5 1092a21-35). The objection is in part that these terms are corporeal and spatial metaphors with no clear meaning as applied to separate intelligibles (σύνθεσις presupposes θέσις, N5 1092a26-7), but also that if the constituents are mixed they do not exist separately as Platonic forms are supposed to⁹³ (also presumably if numerically the same animal were "mixed" both with biped and with quadruped, then, absurdly, biped and quadruped would also be mixed with each other), whereas if they are merely juxtaposed (which is what Aristotle takes ὀφῆ and σύνθεσις to mean), then no genuine unity will be formed out of them. The arguments here are not new, but restate Z13's dilemma about how a single definable οὐσία can arise from a plurality of στοιχεῖα. But whereas in Z13 the point was that parts in the λόγος such as animal and biped, if they are actual thises, cannot be combined in such a way as to yield a single definable οὐσία, here the point is that if animal is combined with biped in such a way as to yield a single definable οὐσία (namely, by participating in biped), this same animal cannot also be so combined with quadruped. Thus while the Z13 argument needs the premiss that biped, as well as animal, is a this, the present argument needs only that the genus animal is a this; but the present argument requires the genus animal to be the same this in man and horse, and the Z13 argument does not.

The second Platonist alternative is thus to say that the genus animal is numerically many in its different species: in terms of B#9, that each στοιχείον is many-per-type. Here too the sequence of objections and Platonist responses is closely analogous to one that arises with regard to the plurality of units within a number. As Aristotle argues in B#11, if numbers are thises, then the one also must be a this, but if the one is a this, there cannot be many units within a number, since a unit is something whose essence is just to be one. If the Platonist insists that there are many individual one-itselfs within the five-itself, or that there are many individual animal-itselfs in

⁹² maybe note also Plato texts using [συγ-]κεράννυμι

⁹³ so e.g. N5 1092a24-6. and note that for the Platonists the intellect strives to understand F separately (when it is made present to the senses only in combination with other forms, and very often with its own contrary): thus the Republic VII passage on the "summoners" {ref}. if it turns out that we can understand animal in separation or abstraction from biped and quadruped (i.e. as if it were separated from them), but that in reality, even among the forms, it is always mixed either with biped or with quadruped, then the whole Platonist argument from the separate intelligibility of F to the separate existence of F collapses. note as in "Collecting the Letters" that late Plato never rejects the separation of forms: he always speaks of the necessity of separating them first and then combining

the many species of animals, then the questions arise, how these many things sharing the same essence are individuated, and then also how they arise. It would be extremely embarrassing for the Platonists to have to admit a primitive (large and probably infinite) plurality of original one-itselfs, but a single first one-itself will not be sufficient to explain the existence of these many ones, and if the many ones arise from a single first one-itself and another independent principle, then a host of objections arise (sketched in B#11 and further developed in MN) about what this principle could be that is not one, and about how it could explain all the different things that would have to arise from it.⁹⁴ So now Aristotle asks how the many animal-itselfs (one in each animal species, or even one in each individual animal) will be individuated, and how they will arise from a first animal-itself. Aristotle assumes, perhaps rightly, that no answer is forthcoming.

Z15 continues Z14's task of pointing out the absurdities befalling "those who both say that the ideas are separate οὐσίαι and at the same time make the form/species out of the genus and the differentiae" (Z14 1039a24-26): to put it another way, those who say both that X is numerically one and that X is a species, and thus definable, and thus constituted out of parts in a genus-differentia λόγος. Once again the argument turns on showing first that such constitution can work only if the parts are common (not numerically one), and then that if the parts are common, the whole they constitute will also be common. In the first half of Z15 (1039b20-1040a7) Aristotle notes, what the Platonists will agree with, that a corruptible matter-form composite οὐσία cannot be the object of definition or ἐπιστήμη. Indeed, he is here restating and expanding an argument from the Platonist side of B#8, that "if there is nothing beside the individuals [or 'beside the composite,' 999a32-4], nothing will be intelligible, rather all things will be sensible, and there will be no knowledge [ἐπιστήμη] of anything, unless someone calls sensation 'knowledge'" (999b1-4).⁹⁵ the Z15 version (with its parallel Z10 1036a5-9, discussed above) make clearer the underlying argument, that a cognition and its object must be correlative in such a way that the object cannot perish while the cognition remains; since an ἐπιστήμη, being a stable ἔξις, will not perish if its object does, an ἐπιστήμη cannot have as its object something that can perish (a perishable thing can be the object of αἴσθησις, which is occurrent and needs the existence and presence of its object for its continuation in existence, but this is just why αἴσθησις should not count as ἐπιστήμη, because it is not a stable ἔξις). The Platonist of B#8 takes this argument to show that, if there is to be definition and ἐπιστήμη, there must be something beside the composite, namely the form, which (on pain of infinite regress) must not itself be generable or corruptible. In Z8 Aristotle took up the Platonist argument for the ingenerability of the form, and conceded the conclusion, but tried to show, first, that the argument does not entail that the form preexists, and second, that if the form did preexist as a this, generation would be impossible (the arguments of Z8 are briefly but clearly referred back to here, Z15 1039b22-7). Now in the second half of Z15 (1040a8-b4) he does something analogous with the Platonist argument that definability and knowability require forms beside the composites: while it is certainly the species that is the object of definition (and thus of demonstrative knowledge, which must use definitions as premisses), if this species were an eternal individual as the Platonists claim, it would not be definable any more than the perishable

⁹⁴references, in BMN and in my discussions above; note esp. M9 1085b14ff, picking up one of the discussions just cited. note Parmenides H2: the one itself is many

⁹⁵see discussion, earlier in this chapter, of Z10 1036a5-9: individual composites, whether sensible or "intelligible" [i.e. mathematical], are not definable, "but are known along with [μετά] sensation or intellection, and when they have departed from actuality it is not clear whether they exist or not, but they are always said/formulated and known through the universal λόγος; matter is unknowable in itself"; also cross-reference to discussion in Iγ2d under head of νοεῖν τι φθαρέντος. now translate the relevant Z15 bit in the footnote, and argue that this is what it means

individuals are. Aristotle says (in what might be printed as a single sentence, bridging the two paragraphs into which Z15 is usually divided), "for this reason, when a definer⁹⁶ [sc. in a dialectical encounter] defines some individual, it should not go without notice that it is always possible to refute him, for it is not possible to define them; and so neither is it possible to define any idea, for an idea is an individual, as they say, and separate" (1040a5-9). Formally speaking, the argument of 1040a8-27 that it is never possible to define an idea is only a part, even a digression, in the whole argument of Z15 (=1039b20-1040b4) that it is never possible to define any individual. Thus at 1040a27, after the discussion of ideas, Aristotle concludes, "so, as has been said, in eternal things it escapes notice that it is not possible to define, especially in those that are unique, such as sun or moon" (1040a27-9), presumably because in these cases the definition of the individual is not refuted either by the vanishing of the individual or by pointing out another individual which meets the same description; and Aristotle does indeed go on to point out faults in possible definitions of the sun. The ideas are one set of examples of individuals that are eternal and one-per-type, among other examples such as the sun and planets, but it is obvious that the ideas are the examples Aristotle is most interested in, and that he mentions the sun in order to be able to tell the Platonists, "you deny that sensible individuals can be objects of definition or scientific knowledge, so you substitute other individuals which are eternal and one-per-type, but some sensible individuals are also eternal and one-per-type; you deny that these things can be definable either, but the eternal one-per-type non-sensible individuals which you substitute for them are in no better state." Thus after discussing the sun and similar examples in 1040a27-b2, he returns to the punchline of the chapter: "Why does none of them offer a definition of an idea? If they tried it would become clear that what has now been said is true" (1040b2-4).⁹⁷ (By contrast, Burnyeat says that "the main argumentative effort of the chapter goes into showing that substantial being as form compounded with matter cannot be defined," p.53, and that Z15 1040a8-b4, the part mainly devoted to Platonic ideas, is a mere "polemical excursion," p.52, as is also Z14.)

In the part of Z15 on ideas, Aristotle starts with a simple argument that no idea, i.e. no species which is an individual, can have a genus-differentia definition: "the λόγος must be [composed] out of names, and the definer will not invent a name (for it would be unknown), and the established names are all common [i.e. common nouns, predicable of numerically many things and not of the definiendum alone]; therefore these must also belong to something else, just as,⁹⁸ if someone defined you, he would say animal, thin or white or something else, which will also belong to something [or someone] else" (1040a8-14). This is an instance of a type of argument that we have also seen in Z14, coming out of B#9: for the species to be constituted out of the genera and differentiae as parts in the λόγος, the genera and differentiae cannot be each numerically one (more safely, at least the genera cannot be each numerically one, since they must each be predicated of all their species), but if the genera and differentiae are not numerically one, the species also will not be numerically one. The Platonist has an obvious

⁹⁶perhaps note on the phrase τῶν πρὸς ὄρον (masculine, not neuter), suspected by some for no very good reason; the pseudo-Alexander's gloss is correct, cp. Θ8 οἱ ἐν τοῖς λόγοις. (FP list some suggestions; they leave the text untranslated!)

⁹⁷on the face of it it seems possible that ἰδέας in b3 is a gloss; that would leave an easier sentence, and you can see why a reader might have added ἰδέας in the margin. however, it seems from what has gone before that people had offered definitions of at least the sun (and indeed some can be found in the pseudo-Platonic Definitions), whereas it is quite credible that no one had tried to define e.g. the idea of horse, as opposed to simply defining horse {note on A9 on adding "ὅ ἐστι": discussion in Iγ2d(?)}

⁹⁸accepting οἶον rather than καί

response, which Aristotle immediately notes: "if someone should say that nothing prevents all [of the names in the definition] from [each] separately belonging to many things, but together belonging to only one thing [namely the definiendum] ..." (1040a14-15). The obvious answer is that, even if the conjunction happens to be true of only one thing, it is still of the same logical type as the conjuncts, and, like them, is capable of being true of many things. But instead of saying this,⁹⁹ Aristotle applies the results of Z14: "[the names conjunctively] belong to both, e.g. biped animal both to animal and to biped" (1040a16-17), since as we have seen "biped animal" is not the λόγος of a single thing unless the animal it mentions is a biped; and, as Aristotle argues by his usual strategies, if the composite species exists separately, then for the same reasons the genera and differentiae will also exist separately and be prior to the species by Plato's test; thus the genera and differentiae will constitute a numerical plurality of things, and the definition will apply to all of them and not to numerically one thing alone (so 1040a17-22).¹⁰⁰ Aristotle's aim here is not, as Bonitz thinks (followed in one way by the criteria-and-candidates interpreters, and in another way by Burnyeat), to show that, because neither sensible individuals nor Platonic forms can be defined, they cannot be οὐσία: ¹⁰¹ the νοῦς of Metaphysics Λ is also an individual, and the arguments of Z15 show that it too cannot be defined (and indeed Aristotle accepts that it is entirely simple, and for this reason too has no λόγος), but it remains an οὐσία. Z15 is not addressing the question what things are οὐσία. Rather, like Z14, it is trying to show that if a separately existing individual cannot be constituted out of ἀρχαί as parts in a dialectical λόγος, and thus that the Platonist attempt to find separately existing ἀρχαί as parts of a dialectical λόγος, any more than the physicists' attempt to find their ἀρχαί as parts of a physical λόγος, discussed and refuted in Z10. And thus while these chapters can play no convincing role in an inquiry into οὐσία as either Frede-Patzig or Burnyeat interpret it, they play very much the role they should within Z10-16 understood as an investigation and rejection of the claim of οὐσία-as-parts-of-the-λόγος to be ἀρχαί, following on the investigation and rejection of the claims of the οὐσία-as-ὑποκείμενον and οὐσία-as-essence to be ἀρχαί in Z3 and Z4-9.¹⁰²

This does not mean, however, that there are no implications for the question of what οὐσία there are. When at the end of Z2 and beginning of Z3 Aristotle stressed the necessity of first sketching what οὐσία is, and did this by sketching the different ways in which Y might be said to be the οὐσία of X, the ultimate aim was to evaluate the disputes that he had surveyed in Z2 (picking up on B#5) about what οὐσία there are. The philosophers posit various ἀρχαί, which they claim exist prior to the manifest things, and which, for this to be true, must exist separately as οὐσία; and in many cases, notably where the ἀρχή is a material substratum or constituent or a Platonic form or genus, they claim that it is the οὐσία of some manifest sensible thing. And in Z3-15 Aristotle has often needed to examine these claims together, evaluating not only claims that Y is the οὐσία of X, but also that Y exists prior to X, or that Y exists separately or is an οὐσία. He has, in particular, drawn negative conclusions, concluding in Z3 that the ultimate

⁹⁹unless, as Ross thinks, it is implicit in the otherwise apparently trivial 1040a22-7 {check Bonitz and FP}

¹⁰⁰the overall point is clear despite some uncertainties of detail and a possible lacuna. discuss, and cp. the commentators

¹⁰¹for Burnyeat, they can be 1-place but not 2-place οὐσία.

¹⁰²note on Burnyeat's "the positive case [i.e. the argument that οὐσία-as-form can be defined], by contrast, is asserted without argument. Aristotle takes it for granted, as he did at Z11 1036a28-9: 'Definition is of the universal and of the form'" etc.; + note textual issues in Z15: (i) 1039b20 note FP's points about ἐπειδή; (ii) 1039b22 ὅλως/ἀπλῶς (I don't think I cite this line, and I think I agree with Burnyeat both that the emendation is wrong and that the sense would be the same anyway, so with Ross/FP against Bonitz/Jaeger); (iii) ἐπιστημονικός, gender, article; (iv) 1040a17 possible corruption

material ὑποκείμενον of a sensible thing does not exist separately and is not an οὐσία, in Z8 that "the cause [which consists] of the forms, as some are accustomed to speak of forms, if they are things beside the individuals, is of no use at least [as a cause of] comings-to-be and existings [γενέσεις, οὐσίαι]: so that [Platonic forms] would not, at least for these reasons, be οὐσίαι καθ' αὐτάς" (1033b26-9), and in Z10-15 that things predicated universally are not οὐσίαι, and that no constituent of an οὐσία is an actual οὐσία. Although Z13's dilemma against the possibility of giving either a physical or a dialectical λόγος of any οὐσία will be, up to a point, solved in Z17-H ("or perhaps there will be [a definition] in one way but not in another; what has been said will be clearer from what follows," Z13 1039a21-3), Aristotle has not yet done anything to solve it at the present stage of the argument,¹⁰³ and at least some of the negative consequences drawn in Z10-15 are permanent. Before going on in Z17-H to solve the aporia, and to say something positive about how to give the οὐσία of a thing, Aristotle first devotes Z16 to drawing the consequences of Z10-15 for the issues of Z2 about what οὐσίαι there are beyond the manifest things. Aristotle represents those consequences as entirely negative, and he is ostentatiously evenhanded between the physicists and the dialecticians.

Z16 starts by saying that ἀρχαί that might be posited by the physicists, as physical constituents of manifest οὐσίαι, are not really οὐσίαι (1040b5-16); it then gives a similar judgment on ἀρχαί that might be posited by the dialecticians, universals and especially the most universal things, being and unity (1040b16-27); then finally it offers some concluding reflections (1040b27-1041a5) on the results of the inquiry thus far. Even scholars who cannot see how Z16 comes out of the immediately preceding chapters agree that Aristotle must now be returning to address the issues of Z2.¹⁰⁴ Z16 starts by saying that "most even of the things that seem¹⁰⁵ to be οὐσίαι are [instead merely] δυνάμεις, the parts of animals ... and earth and fire and air" (1040b5-8). In speaking of "most even of the things that seem]to be οὐσίαι," Aristotle is referring back to the list in Z2 of things that seem, whether to everyone or only to particular groups of philosophers, to be οὐσίαι. The one and the numbers and the limits of bodies and the forms seem to some people, but not others, to be οὐσίαι (Z2 1028b16-27), but the parts of animals and earth and fire are initially presented as uncontroversial: "οὐσία seems to belong most manifestly to bodies, for which reason we say that animals and plants and their parts are οὐσίαι, and the natural bodies such as fire and water and earth and anything of this kind, and whatever things are parts of these or [composed] of some or all of these, like the heaven and its parts, stars and moon and sun" (Z2 1028b8-13). But, as Aristotle immediately says, "whether these alone are οὐσίαι or also others, or some of these, or some of these and some others, or none of these but some others, we must investigate" (1028b13-15; all cited IIα2 above). The investigation since Z3 has of course mainly focussed on οὐσίαι alleged to exist apart from and prior to the manifest οὐσίαι, leaving the οὐσία-status of these things unquestioned. But (as we saw already in discussing Z2 in IIα2) the parts of living things and the simple bodies, detached in

¹⁰³contrary to the claims of Burnyeat and others that he does so in Z15: refs, discussion above (collect views; as noted above Ross is equivocal)

¹⁰⁴Frede-Patzig cited IIα above: "Z16 does not connect immediately with Z15, but rather reaches back to some of the candidates for the role of ousia in Z2 one would hardly see Z16 as standing in a closer connection with Z13-15, if there did not stand at the end of Z16 a summary of the two main results of Z13-16." this is presumably in part the result of missing Aristotle's equal critique of physicists and dialecticians in Z13-15 (which is clearer if we group Z10-12 with these chapters, rather than taking Z10-11 with Z4-6 and throwing out Z12); FP are unable to see what the connection is between the first two parts of Z16

¹⁰⁵this should be translated consistently "seem" rather than "thought"; I've now imposed consistency in IIα3, but there may also be mentions elsewhere

thought from the things they are parts of and considered in themselves, are also in a sense theoretical entities, claimed to be present in things whether they are perceived there or not (we do not usually perceive the fire in composite bodies, or the liver in an animal), and claimed by at least some philosophers to exist prior to those composite things (earth and fire and so on for many philosophers, the homoeomerous parts of animals for Anaxagoras, and the anhomoeomerous parts of animals, heads without necks and so on, for Empedocles). The status of these parts was investigated, in examining their claim to be parts of the λόγος τῆς οὐσίας, in Z10 and again in Z13, and Aristotle now draws the consequences for the issues of Z2.

"Most even of the things that seem to be οὐσίαι are [instead merely] δυνάμεις, the parts of animals (for none of them exist when they have been separated;¹⁰⁶ once they are separated, they all exist as matter) and earth and fire and air: for none of them is one, rather they are like a heap, before they are concocted and some one thing comes to be out of them" (1040b5-10). There are a number of points which Aristotle is alluding to here without distinguishing them carefully. Most obviously, since Z13 had concluded that "it is impossible for an οὐσία to be out of οὐσίαι present in it in actuality" (1039a3-4), it follows that the parts of a composite οὐσία such as an animal, if they are οὐσίαι at all, are only potential οὐσίαι. This, however, is a statement about the status of parts of a composite when they are present in that composite, rather than about, say, flesh and bone existing as ingredients in the Anaxagorean precosmic mixture, before there were any animals to be parts of. But Aristotle has argued in Z10 that the parts of an animal cannot be what they are except within the whole animal (as he says here, "none of them exist when they have been separated"): thus bone as an ingredient of the precosmic mixture, or a nose not attached to a head, could be only potentially those animal parts, i.e. bone and nose as defined by their functions within an animal. Or, to put the point another way, if by "bone" we mean what bone in the precosmic mixture and functioning bone in an animal have in common, then bone in this sense can be only a δύναμις and not an οὐσία. (This is not to deny the possibility that something which bears this δύναμις, existing not inside any animal, might be an οὐσία; we might even call it "bone." But then it would not be the animal part called "bone" that is an οὐσία, either in the sense of actually functioning bone or in the sense of a material that has the capacity to function as bone.) It is what is common between the part existing inside the animal and its possible homonyms outside the animal--that is, what remains of the part when the form imposed by its function within the whole animal is removed--which Aristotle says is "like a heap, before [it is] concocted and some one thing comes to be out of [it]." (Of course, Aristotle does not himself believe that even potential bone exists outside animals of the relevant species, except inasmuch as external nutriment can become the blood of that species when ingested and concocted, and the blood can then be assimilated to the different homoeomerous parts of the animal. But potential bone, potential eyes, etc., do exist within the embryo, and there we can see the assemblage of potential animal parts being concocted into a whole animal.)¹⁰⁷ And Aristotle

¹⁰⁶is κεχωρισμένον a circumstantial participle, or complement of ἔστιν?

¹⁰⁷at 1040b10-16 Aristotle raises and resolves an objection; the flow of the argument does not depend on these lines (they are an "optional expansion"). the text is highly compressed, and I am not sure I entirely understand what is going on, but there is a suggestion that, in some cases, a part of an animal may be an actual οὐσία, since the arguments against regarding it as such may break down, in particular the argument of Z0 that no part of an animal can continue to exist when separated from the whole animal: after all, a section of a worm can continue to move and live when separated from the rest of the worm. Aristotle's answer seems to be that this argument shows only that the section of the worm (while still part of the longer worm) is only potentially a living thing in its own right; and, if the longer worm is a genuine natural continuous whole, a part of it can only potentially be an οὐσία or (in particular) a whole living thing. what the front half of the longer worm, and the shorter worm that that front half will become

seems to think that fire and the other simple bodies are in a similar state, not in that their definitions refer to some composite of which they are parts, but in that they never exist by themselves but only as part of some composite:¹⁰⁸ as long as they are parts of a composite, they are δυνάμεις, and what fire as part of one composite and fire as part of another composite have in common is only a δύναμις. And certainly the simple bodies are heaps rather than natural unities if we remove the forms imposed on them as parts of some meteorological/mineralogical or biological whole. What is important for Aristotle is that earth and fire and so on, and likewise the parts of animals, are not the unproblematically given οὐσίαι that they seemed to be in Z2; rather, they are entities theoretically posited as ἀρχαί of the genuinely manifest οὐσίαι. Aristotle has no objection to positing them, and he thinks that a full scientific definition of an animal species will reveal its necessary constitution, primarily out of its anhomoeomerous parts and then by further analysis out of its homoeomerous parts, but also ultimately out of all four simple bodies. The simple bodies are thus not merely parts of the ὑποκείμενον but parts of the λόγος. But, like other στοιχεῖα, they are not ἀρχαί prior in οὐσία to the composite, and so, however important they may be for Aristotle's physics, he takes no real interest in them in the Metaphysics.¹⁰⁹

Thus it is entirely natural for Aristotle to turn at Z16 1040b16 from alleged physical ἀρχαί to alleged dialectical ἀρχαί such as being and unity ("it is clear that neither the one nor being can be the οὐσία of things," 1040b18-19), despite the puzzlement expressed by Frede-Patzig. Frede-Patzig (II,297) are right against Schwegler¹¹⁰ that Aristotle cannot intend being and unity, as well as the parts of animals and the simple bodies, to fall under the scope of "most even of the things that seem to be οὐσίαι are [instead merely] δυνάμεις" from the beginning of Z16: that would indeed apply to the genera, but Aristotle thinks that being and unity are not genera and do not have even the kind of potential existence that the genera do. The point remains that people who put forward dialectical ἀρχαί including being and unity, like those who put forward the simple bodies and the parts of animals, are putting them forward as στοιχεῖα ("some also of those who say that the one or being or the great and small are στοιχεῖα of the things that are seem to be using them as genera," B#6 998b9-11),¹¹¹ and Aristotle rejects the claims of all στοιχεῖα to be prior in οὐσία to the composite for the same fundamental reason, even if he also gives additional reasons in some particular cases.¹¹² If we read Z in general as addressing the series of aporiai

when separated from the back half, have in common is, again, a δύναμις and a heap ("worm-length" rather than "worm"), even if one actualization of this δύναμις is what spontaneously results when the worm-length is separated and left to itself {it's not clear to me whether there's a connection with Z10 on the parts of the body that are simultaneous with the soul rather than posterior; also d note on σύμφυσις [cp. Δ4 1014b20-26 and Λ3 1070a9-11 {also 18-20?}], but here the meaning seems to be opposite to the present passage; d follow out references in Ross ad locum, and note some construal difficulties pointed out by Ross; in particular, text issue σωρός/ὄρρος, and question whether τὰ πάρεγγυς are parts of the body closely connected with the soul [as I would guess], or vice versa}

¹⁰⁸reference?--I think he says this in GC II, contrasting "true" air with what we conventionally call such

¹⁰⁹as we will see in discussing Λ3, οὐ κακῶς Πλάτων λέγει ὅτι εἶδη ἔστιν ὅποσα φύσει, εἴπερ ἔστιν εἶδη, ἀλλ' οὐ τούτων οἷον πῦρ σὰρξ κεφαλὴ· ἅπαντα γὰρ ὕλη ἐστί, καὶ τῆς μάλιστ' οὐσίας ἢ τελευταία (1070a19, see discussion in IIIβ1). there is a hierarchy of the simple body, the homoeomerous part, and the anhomoeomerous part, and even the last, which is closest to οὐσία, is dismissed, and it is asked instead about the nature of the whole, whether it can exist apart from the composite οὐσία (the answer, of course, being no here as well)

¹¹⁰but d check the reference in Schwegler, make sure they're not being unfair to him

¹¹¹have I really not translated this e.g. in Iβ3? d check, harmonize translations if necessary, but you probably also need to have more translations in Iβ, at least in the footnotes

¹¹²Frede-Patzig's own suggestion (II,303), that Aristotle turns by free association from complaining about the lack of unity of a heap to talking about the status of unity, is much sillier than Schwegler's suggestion, and shows much less grasp of the overall connectedness of Z

beginning with B#5, and Z10-16 in particular as addressing the series of aporiai beginning with B#6, it will not be at all surprising that Z16 1040b18-19 allude to the aporia of B#11, whether being and unity are the οὐσία of things. Aporiai #7, #9, and #11 are all in different ways designed to raise difficulties for the Platonist answer to #6, and it is natural that Z10-16, in refuting the Platonist as well as the physical answer to #6, will make use of all of them. The reason for regarding universals, and in particular genera, as ἀρχαί, seems to be that the more universal thing is prior (in λόγος or by Plato's test) to the less universal, and this would naturally lead to positing being and unity as the first of all things; and the absurdities implicit in expecting the universal to be an οὐσία will be most manifest in these cases.¹¹³ Nonetheless, the arguments that Aristotle gives here do not really turn on anything peculiar to the cases of being and unity; they are standard reductions ad absurdum against recognizing any universal as an οὐσία, all of which he has given in some form in Z13-14, and which merely yield unusually intense absurdities in the cases of being and unity. "One [thing] would not be present [ὑπάρχειν] in many [places or subjects] at once, but what is common is present in many [subjects] at once: so it is clear that none of the universals is present separately παρά the individuals" (1040b25-7); "since ... things whose οὐσία are numerically one are numerically one, it is clear that neither the one nor being can be the οὐσία of things" (b16-19); the οὐσία can belong to only one thing, i.e. must be ἴδιον, and so cannot be κοινόν (b23-24).¹¹⁴ These yield unusually intense absurdities in the cases of being and unity, because these are common to all things, so that if they were οὐσία καθ' αὐτάς, they would be present in everything, and all things would be one. Aristotle uses these arguments to conclude that "neither the one nor being can be the οὐσία of things, just as being-a-στοιχείον and being-an-ἀρχή cannot, rather we ask what the ἀρχή is, in order to reduce it to something better known" (b18-21):¹¹⁵ that is, while it may be (indeed must be) true of X to say that it is being and one, these do not say τί ἐστὶ, just as saying that it is an ἀρχή or a στοιχείον does not say τί ἐστὶ (it is in a way true, but does not help the searcher, to say that the ἀρχή of all things is ἀρχή). That is: the arguments support the anti-Platonist side of B#11, where Aristotle had started by asking "whether being and the one are οὐσία of things, and whether each of these is not, being something else, one or being, or whether we must ask what being and the one are, there being some other underlying nature": the latter view is what "the physicists, such as Empedocles" assume when they "say what the one is, as if reducing it to something better known" (1001a5-8, a12-14), and one result of the arguments of Z13-16 is that they are right.

The conclusions drawn in Z16, and summed up in its last sentence--"it is clear that none of the things that are said universally is οὐσία, nor is any οὐσία [composed] out-of οὐσία" (1041a3-5)--seem to be entirely negative. In Z17 Aristotle will begin a new investigation, which will

¹¹³point made for instance in K, cited probably in Iβ4

¹¹⁴I've translated the text in Iγ2a. I reproduce the translation here: "Since one is said in the same way as being, and one [thing] has one οὐσία, and things whose οὐσία are numerically one are numerically one, it is clear that neither the one nor being can be the οὐσία of things, just as being-a-στοιχείον and being-an-ἀρχή cannot, rather we ask what the ἀρχή is, in order to reduce it to something better-known.¹¹⁴ Being and one are more the οὐσία of these things than ἀρχή and στοιχείον and cause,¹¹⁴ but these too [cannot be οὐσία], since nothing else that is common can be an οὐσία either: for the οὐσία belongs to nothing except to itself¹¹⁴ and what has it, that of which it is the οὐσία. Again, one [thing] would not be present [ὑπάρχειν] in many [places or subjects] at once, but what is common is present in many [subjects] at once: so it is clear that none of the universals is present separately παρά the individuals." see Iγ2a for some notes on issues of text and construal

¹¹⁵perhaps note on whether or in what sense being and unity are "more" οὐσία, or closer to being οὐσία or more plausible candidates for οὐσία, then ἀρχή and στοιχείον: Bonitz and Ross, following the pseudo-Alexander, say that this is because being and unity are non-relative notions, and the others are relational, and this seems right

resolve the aporia of Z13 and show how to give the λόγος τῆς οὐσίας of X, turning on distinguishing between ἀρχή and στοιχεῖον, giving up on the claims (shared by both sides of B#6) that the στοιχεῖα of a thing are ἀρχαί prior in οὐσία to the thing, and that the οὐσία of a thing can be given by giving its στοιχεῖα. The results of Z17-H are, in a sense, positive, resolving B#6 and showing how to give the οὐσία of a thing, and to exhibit that οὐσία as "an ἀρχή and cause" (1041a9-10); but they still do not lead us to any ἀρχαί existing prior in οὐσία to the manifest things, much less existing from eternity or separate from the sensible world. To get to that goal will require an entirely new approach, begun in Θ and carried to completion in Λ. The reader at the end of Z16, having seen no lines of investigation with any remaining hope of getting to the desired goal, is in danger of giving up. So Aristotle adds a diagnosis of the present situation, and encouragement for the future, which I have already cited and discussed in IIα3:

It is clear that none of the universals exists separately beyond the individuals. But those who speak of Forms in one way speak rightly by separating them, if indeed these are οὐσίαι; but in another way not rightly, because they say that the one-over-many is a Form. And the reason is that they cannot tell what the οὐσίαι of this kind are, the incorruptible [οὐσίαι] beyond the individual and sensible ones: so they make these the same in species [or in form, τῶ εἶδει] with the corruptibles (for these we know), man-himself and horse-itself, adding to the sensibles the word "itself." But even if we had never seen the stars, nonetheless, I suppose, there would still be eternal οὐσίαι beyond those we knew; so also in the present case, even if we cannot tell what they are, it is still doubtless [ἴσως] necessary that there should be some. (Z16 1040b26-1041a3)

As we saw in IIα3, "even if we had never seen the stars" means "if we had spent our whole lives in a cave".¹¹⁶ the Platonists, rightly suspecting that we have been cut off from direct cognitive access to the eternal things which are the most worth knowing, and commendably trying to describe these eternal things ("in one way rightly ..."), fall back on the things down here, just as the poets, in trying to describe the gods, fall back on the familiar human beings, magnified by being imagined as immortal and more powerful ("what is most absurd is to say that there are natures besides those within the heaven, but that these are the same as the sensibles except that these are eternal while those are corruptible. For they say that these are man-himself and horse-itself and health-itself, and nothing other [than man, horse, etc.], doing much the same as those who say that the gods exist but are human-shaped: for neither were those [the poets] positing anything other than eternal men, nor are these [the Platonists] making the Forms anything other than eternal sensibles," B#5 997b5-12, cited IIα3 above). Critics since Xenophanes had used this kind of observation to discredit the knowledge-claims of the poets, and Aristotle extends the point to discredit the knowledge-claims of the Platonists. The Platonists have persuaded themselves that they are out of the cave, when really they are trapped in another underground chamber, complete with fake painted heaven; but, Aristotle is promising, the outside world is still out there, and there remains the hope that another path will lead us out.¹¹⁷ Certainly there is no suggestion that we make ourselves at home down here and recognize that enmattered forms are what we had been looking for all along. This conclusion to Z3-16 makes little sense on a

¹¹⁶see IIα3 above and the discussion of the comparandum De Philosophia Fr.13 Ross. also: see IIα3 for discussion of text trouble

¹¹⁷here summarizing from IIα3

view that holds that Z is examining which sensible things best meet the criteria for οὐσία,¹¹⁸ or what is most properly the οὐσία of a sensible thing; it makes excellent sense if Z, as part of the larger investigation περὶ ἀρχῶν, is examining other philosophers' attempts to find separately existing eternal ἀρχαί as οὐσία of the manifest things.

¹¹⁸except on the view that Aristotle is rejecting the claims of all sensible things to be οὐσία, and saying that we need to look to separate eternal things to find genuine οὐσία. but this is simply not his view