Iβ2: The "methodological" aporiai and the program of Metaphysics Γ and following

Iβ2c: The first aporia

I have deferred discussion of the first aporia to the end of the series of "methodological" aporiai, both because the interpretation of the first aporia is the most controversial, and because Aristotle's treatment of it is the most complicated: though he answers the other "methodological" aporiai immediately in Γ1-3, Γ does not touch on the first aporia at all, and it remains a guiding question of the books on the causes of being, EZHΘ, finally resolved only at the end of Λ.

The question of the role of the first aporia in the Metaphysics is closely bound up with the question of where (if anywhere) Aristotle answers it. I said in Iβ2a that Aristotle's answer to the aporia is "negative," in the sense that he gives a negative answer to the question "is wisdom a single science treating all four kinds of causes?", and I think this conclusion is obviously forced on us by the texts. But most modern scholars, following the ancient commentators, have thought that Aristotle's answers to all four "methodological" aporiai are affirmative, and indeed that they must be affirmative for the project of wisdom to be possible: many scholars have also thought that Aristotle's argument in Metaphysics A commits him to treating wisdom as a science of all four causes.[1] So they have tried, with some embarrassment, to find a passage where Aristotle actually gives an affirmative answer to the first aporia, and resolves the difficulties that he has raised there against such an answer. Many commentators, including Bonitz and Ross, suggest that Aristotle answers the first aporia, along with the other "methodological" aporiai, in Γ1-3; but this is hopeless. Ross says that "Aristotle answers the question in Γ1, by saying that metaphysics studies all the causes or principles of being qua being. The precise difficulties raised here [in B2], however, are not resolved" (Ross AM I,227).[2] But it is a serious understatement to say that Γ does not resolve the "precise difficulties" raised in the first aporia against wisdom being a single science of the four kinds of cause: in fact, Γ never mentions that there are different kinds of cause,[3] and a fortiori never discusses whether wisdom is a science of four kinds of cause, or resolves difficulties against a single science treating different kinds of cause. (It is also not true that Γ1 says that wisdom treats "all the causes" of being qua being: it says that the ἀρχαί, which are the objects of wisdom, will be the highest causes, and that these will be causes of being qua being, but it does not make the converse claim that all causes of being qua being are among the objects of wisdom. Γ1 answers the third and fourth aporiai in saying what effects wisdom will know causes of--being and its per se attributes--but it gives no guidance on what kind of causes wisdom will know.) Décarie, rightly rejecting Ross' solution, proposes instead that the aporia is resolved by Aristotle's argument in Physics II,7 that the physicist must treat all four kinds of

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[1]references: Iβ2a on methodological aporiai in general, Iβ1 on A and the first aporia. as far as I know, Aubenque is the only modern scholar who is not convinced that the answers to all four methodological aporiai are affirmative (he agrees that affirmative answers are necessary conditions for wisdom, but is not convinced wisdom is possible for humans). St. Thomas suggests that wisdom may treat only the three non-material causes (see below). Averroes apparently misunderstands Aristotle's statement of the aporia, so we can only tease out his answer from things he says elsewhere (I think his answer is that wisdom treats the three non-material causes). among those who believe that wisdom is possible, the only scholar I know, ancient or medieval or modern, who denies that wisdom treats all three non-material causes is 'Abd al-Laṭîf al-Baghdâdî, who, in a text to be edited by Cecilia Martini Bonadeo, says that wisdom treats only the efficient and final causes

[2]this is all but quoting Bonitz

[3]quasi-exception Γ5 1010a20-21 ἐξ οὗ γίγνεται καὶ ὑφ᾽ οὗ γεννᾶται; not connected with any discussion of "cause"

cause.[4] But while this passage shows that, on Aristotle's view, a single science does sometimes treat several kinds of cause, this does not by itself answer the first aporia, which is asking, not whether some science can treat different kinds of cause, but which kind or kinds of causes wisdom treats. The first aporia does, among other things, raise a prima facie difficulty against a single science treating different kinds of cause, and the Physics II passage (and similar passages in De Anima II,4 and Parts of Animals I,1) show that Aristotle thinks this difficulty can be resolved in the case of physics: but there is no obvious reason why a solution of the difficulty in the case of physics should also yield a solution for wisdom, and, when we examine Aristotle's solution for physics in detail, we will see that it does not. It is in any case embarrassing that Aristotle should not answer this basic question about metaphysics, along with the other methodological aporiai, in the Metaphysics itself. We will see that the Metaphysics does in fact answer the question, negatively. But first we need a clearer understanding of the structure of the first aporia, and of the difficulties Aristotle is raising against the different possible answers.

To understand the structure of the aporia we have to see that Aristotle's basic question is not the yes-no question "is there a single science of the different kinds of cause?", but rather "what kind or kinds of causes does wisdom treat?", that is, "what kind or kinds of causes are the ἀρχαί?".[5] Aristotle signals this from the outset in describing the aporia as "concerned with the difficulties we discussed in the introduction [περὶ ὧν ἐν τοῖς πεφροιμιασμένοις διηπορήσαμεν]" (B1 995b4-5). Alexander raises the objection that Aristotle has not in fact discussed this aporia in A, a difficulty which (as Alexander says) had bothered some previous readers enough that they had inserted the spurious α3 995a19-20 ("and [we must examine] whether it belongs to one science or several to consider the causes and the ἀρχαί") at the end of α to supply a back-reference for B1 995b4-5.[6] Alexander himself replies that Aristotle means only that this aporia is about the things, namely the four kinds of cause, which he did discuss in A (Alexander 174,5-33; followed by Bonitz and Ross). But, while A did not discuss whether there is a single science of different kinds of cause, A3-7 had been an extended discussion of whether wisdom is a science of the material, the efficient, the formal or the final cause (and this is by far the most obvious "difficulty we discussed in the introduction"), and this is the discussion which Aristotle is now saying we must take up, and which he does in fact take up.

In the first half of the aporia, B2 996a18-b1, Aristotle argues that we cannot avoid the question, which of these sciences is wisdom, by saying that wisdom is a single science of all four kinds of cause. He gives two arguments which are intended to support, either the more general thesis that no one science treats all the different kinds of cause, or the more particular thesis that wisdom does not treat all the different kinds of cause: the first of these arguments is simply the question "how would it belong to one science to know the ἀρχαί, if they are not contraries?" (996a20-21), while the second and longer argument (a21-b1) turns on the claim that not all objects have all the different kinds of cause (a21-22). In the second half of the aporia, 996b1-26, assuming that there are different sciences of the different kinds of cause, Aristotle asks which of these sciences will be wisdom, and argues in turn on behalf of the final, the formal, and the efficient cause (omitting the material cause, apparently as the least plausible to his audience), referring where possible to the criteria of wisdom from A2. Alexander tries to get the two halves of the aporia to support opposite sides of the question "is there a single science of the different

[4]Décarie, Objet de la Métaphysique selon Aristote, p.97

[5]cross-reference to Iβ2a

[6]however, while α3 995a19-20 are certainly spurious, it is possible that they are a more innocent "catchphrase" transition from α to B--although then it is curious that the transition leaps over the introduction to B, B1 995a24-b4

kinds of cause?": the first half argues that there is not, and the second half argues that there is, by reducing to absurdity the assumption that there is not: the absurdity would be that, on this assumption, there could not be any single science meeting all the different criteria laid down in A2 for wisdom (so Alexander 183,15-184,11). But there would be no absurdity in such a conclusion. The fact is that Aristotle never tries to refute the hypothesis that there are different sciences of the different causes, just as he never tries to refute similar hypotheses in the second, third and fourth aporiai; rather, in each case he simply asks, if the science of X and the science of Y are not the same, which of them is wisdom? Alexander, in order to make the second half of the aporia support the conclusion that there is a single science, proposes to insert a negation, turning "so it would belong to different sciences [ἄλλης … ἐπιστήμης] to study each of these causes" (996b24-6) into "so it would not belong to different sciences [οὐκ ἄλλης … ἐπιστήμης] to study each of these causes" (Alexander 186,31-187,6)--but there is nothing in the argument that would support such a conclusion, unless we add Alexander's premiss that it would be absurd if no one science satisfied all the criteria for wisdom from A2.[7]

It is easiest to approach the aporia starting from the much easier second half. As Aristotle says, "out of the things that were determined before [i.e. in Metaphysics A],[8] as to which of the sciences should be called wisdom, there is an argument for giving each of them this title" (996b8-10):[9] and indeed most of the arguments are already familiar from A. Most obviously, the reasons given at A2 982a16-19 and b4-10 support the claim of the science of the final cause to be wisdom (so now B2 996b10-13).[10] Less obviously, Aristotle now says that A2's arguments that wisdom is the science of "the first things and the causes" as what is most knowable (A2 982b2, cp. B2 996b13-14) support the claim of the science of οὐσία. As Aristotle develops the argument, the claim is not simply that the ἀρχαί which are the objects of wisdom will be some kind of substances rather than accidents (which is certainly true), but that wisdom, in knowing the first causes of a given thing X, will know the οὐσία of X--the answer to the question "what is X," so presumably the formal cause of X--since we know X better by knowing what it is than by knowing what it is not, and better by knowing what it is in the strict sense than by knowing what it is like or what it does or suffers (996b14-18). However, it should not be taken for granted that

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[7]Bonitz rightly dismisses Alexander's "very improbable" emendation, which as far as I know no modern editor has adopted--it is in the margin of E as an alternative reading, presumably (as Jaeger says) as a result of Alexander's influence. in fact 996b24-6 (on which see below) isn't summing up the second half of the aporia, but just a smaller argument that the science of the final cause is different from the science of the efficient cause, and that there are reasons for preferring the science of the final cause as wisdom, as well as reasons for preferring the science of the efficient cause (a possible reading which Alexander duly notes, as does Ross). nothing anywhere in Aristotle's argument tends to support the conclusion that there is a single science of all the kinds of cause--although of course his solution to the aporia might depend on showing that there is such a science. Ross, in addition to suggesting the correct reading of 996b24-6, also suggests that Aristotle is here at the end reverting to sum up the first half of the aporia. in either case Ross agrees (explicitly in his note on 996b1) that Aristotle has no argument for the supposed antithesis. Bonitz, however, seems to think that something is missing, that Aristotle ought to have such an argument

[8]note on πάλαι, if not already given

[9]note the reading of Ab (and of the lemma of Alexander, although probably not of the text presupposed by his commentary), οὐδαμῶς ἔχει λόγον, where EJ (and a citation in Asclepius) have, surely rightly, ἔχει λόγον--as Jaeger suggests, this too may be part of an attempt to make the second half of the aporia support the "antithesis"

[10]there is a slight discrepancy where B says, not just that wisdom commands but that "the other sciences, like slaves, do not even have the right to talk back" [ἀντειπεῖν here is presumably not to reach contradictory results--no two sciences can legitimately reach contradictory results--but to protest a command]: A2 talks about commanding and obeying but does not compare the other sciences to slaves (Protrepticus B25 does, but there the "free" science is the one that is known for its own sake, which seems to go with A2's argument for the science of "the first things and the causes" rather than with its argument for the science of the for-the-sake-of-which)

the wise person is also the person who knows X best. Perhaps there is a science of X distinct from wisdom, and the wise person has in a general way knowledge of all things, through knowing their ἀρχαί, "without having knowledge of them individually" (A2 982a9-10), so that while he will certainly know the οὐσία of the intrinsically most knowable objects, the ἀρχαί (rather than just knowing what they are not or what they are like), he may not know the οὐσία of X. But it is possible that, even if X is some ordinary physical object far removed from the ἀρχαί, wisdom will know the οὐσία of X, since it may be that if we ask "what is X," and keep on asking what-is-it questions until we reach a stopping-point, we will ultimately reach the ἀρχαί: in particular, this is true on Plato's view as Aristotle represents it in A6. Or it may also be that X is not an ordinary physical object: thus Aristotle says that we think we know X when we know what-X-is in the case of "things of which there are demonstrations" (996b19-20), by contrast with "comings-to-be and actions and every kind of change" (b22-3). This contrast is mainly between mathematical and physical knowledge, and Aristotle's example of the "things of which there are demonstrations" is squaring a rectangle, which we understand when we know that it is the finding of a mean proportional (b20-22), where this is not the nominal definition ("constructing a square equal to the given rectangle") but the scientific definition: he is here applying the result of Posterior Analytics II,8-10 that the scientific definition of X involves grasping the cause of X, and is interconvertible with a demonstration of the existence of X (in this case with a construction-procedure for squaring a given rectangle).[11] And indeed, on the views of many in the Academy, starting with some mathematical object and asking "what is it" will ultimately lead us to the ἀρχαί. This might succeed in reaching the ἀρχαί, and thus wisdom, even if Speusippus and Aristotle are right against Plato that asking "what is it" of physical things will never lead to anything eternal beyond the physical things. So the science of the formal (perhaps also material) causes of mathematical things has a strong claim to be wisdom. But, as Aristotle has argued, so does the science of final causes, presumably of physical things (as we will see, Aristotle argues that mathematical things do not have final causes); and he adds that "we know comings-to-be and actions and every kind of change when we know the ἀρχὴ κινήσεως; and this is other than and opposite to the τέλος, so that it would seem to belong to different sciences to consider each of these causes" (996b24-6).[12] Indeed, if wisdom seeks the cause of the things manifest to us, which are physical things, and if change is what is most proper to these things, it seems that wisdom should be seeking the ἀρχὴ κινήσεως (so A9 992a24-6, and cf. all of 992a24-b1, against those for whom "mathematics has come to be philosophy"). We might doubt whether a chain of efficient causes of physical things will ever lead to anything eternal beyond the physical things, but Aristotle will claim that it will, and indeed that it will lead to something that is also a final cause. If the Platonic project of finding the ἀρχαί as the first formal causes (and perhaps correlative material causes) of all things does not succeed, then the two most plausible projects of wisdom, at least for philosophers who expect the ἀρχαί to be unchanging and separate from physical things, are Speusippus' project of finding the ἀρχαί as

[11]against the bizarre view of Alexander, still maintained by Ross, that Aristotle's contrast is not between mathematical and physical things but between attributes and substances. Ross falsely says that the Posterior Analytics says that substances do not have causal definitions (it says that things that don't have causes don't have causal definitions)

[12]it is clear (see note above) that he is just talking about efficient and final causes, and that he is only summarizing this last little argument--see more discussion in IIIγ3, and (probably) at the end of the present section. the argument that "these are opposite" is apparently just that ἀρχή and τέλος, beginning and end, are opposites; Aristotle himself neither accepts this conclusion nor thinks that it would imply that the sciences are different, see further discussion. {but NB does he, maybe in Physics II, describe efficient and final causes as opposite?}

the first formal (and perhaps material) causes of mathematical things, and Aristotle's project of finding them as the first efficient and final causes of physical things. As we will see, much of the first aporia of B is generated by the conflict between these two contenders for wisdom.

The long argument

Of course, there may be no need to choose between these different projects of wisdom, if it turns out that there is a single science of all three (or all four) kinds of cause. In the first half of the aporia, both the short argument 996a20-21 and the long argument 996a21-b1 are devoted to arguing that there is not a single science of all the kinds of cause, or more specifically that wisdom is not a single science of all the kinds of cause; and both of these arguments, when thought through, tend to support particular projects of wisdom. It will be easier to start with the long argument, which is most immediately an argument for the thesis that "many beings do not have all [of the kinds of causes]" (996a21-22), since unmoved, and specifically mathematical, objects do not have efficient or final causes. This argument is evidently designed to support the same conclusion as the short preceding argument, "how would it belong to one science to know the ἀρχαί, if they are not contraries?" (a20-21), namely that wisdom is not (or, that there is not) a single sciences of all the kinds of cause. But even if the argument proves that mathematical objects do not have efficient or final causes, how would it support this larger conclusion? The argument can only show that the sciences of the material, formal, efficient and final causes cannot be identical in the strict sense that anyone who knows (say) the formal cause of X would thereby also know the efficient cause of X, since in some cases X has a formal but not an efficient cause.[13] But there might still be some sciences that are sciences of all four kinds of cause, and indeed it might still be the case that the knowledge of any one cause of any thing is necessarily the knowledge of all the causes that the thing has. And surely anyone who says that wisdom is a science of all four kinds of causes means that wisdom is the science of all the kinds of causes of a given thing <u>that the thing has</u>: wisdom will not know efficient or final causes of things that do not have efficient or final causes, but this does not seem like a serious objection.

To see how the argument of 996a21-b1 would give serious reasons for denying that wisdom is a science of all four kinds of cause, we need to supply some missing premisses, and to do this we need to determine more precisely the intentions of the proponent of the argument (whether this proponent is Aristotle himself, or some other real philosopher, or a hypothetical philosopher that Aristotle has invented for the sake of argument). For this we need to consider the text as a whole. Aristotle says:

> Furthermore, there are many beings which do not have all [the kinds of causes]:[14] for how could unmoved things have an ἀρχὴ κινήσεως [efficient cause] or the nature of the good [ἡ τἀγαθοῦ φύσις], if indeed everything which is good <u>per se</u> and on account of its own nature is a τέλος, and is a cause in such a way that other things both come-to-be, and are, <u>for the sake of</u> it, and the τέλος and for-the-sake-of-which is the τέλος of some <u>action</u> [πρᾶξις], and all actions are accompanied by motion [μετὰ κινήσεως]? So in things that are unmoved there

[13] so, rightly, Ross, citing Colle, AM I,227

[14] I am reversing Aristotle's construction: where I say "X has kind-of-cause Y," he says "kind-of-cause Y belongs to X"

> could not be this ἀρχή or a good-itself [αὐτοαγαθόν].[15] And this is the reason why in mathematics nothing is proved by means of this cause, nor is there any proof [in mathematics] on the ground that something is better or worse, nor does anyone mention anything like this at all: it was on account of this that some of the sophists, like Aristippus, used to pour scorn on mathematics, saying that in the other arts, even the mechanical arts like carpentry and shoemaking, everything is asserted on the ground that it is better or worse, but that mathematics gives no argument about goods and evils. (996a21-b1)

Aristippus, in the argument cited at a32-b1, is reclaiming the Socratic heritage against Plato, by arguing in Socratic style that mathematics, Plato's preferred discipline for reaching wisdom, does not meet the standards of ordinary arts such as carpentry or shoemaking, since these arts can justify what they do by arguing from what is good, and mathematics cannot.[16] Now at first sight it seems plausible that the whole argument of a21-b1 is meant to support an Aristippean position: the point would be that since wisdom must obviously be about the good, and since (against what Plato had claimed in his lecture on the good) there can be no final causes of mathematical objects, wisdom cannot be a science of (causes of) mathematical objects, but rather of some kind of object that has a final cause, and thus of some kind of changeable object. But then the argument would do nothing toward showing that wisdom is not a single science of the four kinds of cause; and, looking more closely at the argument as a whole, we can see that it is not designed to support an Aristippean position. The main argument, unlike what is cited from Aristippus at the end, is not at all designed to "pour scorn" on mathematics.[17] Aristippus may have criticized

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[15]here at a27-8 Aristotle says that this kind of ἀρχή cannot exist ἐν τοῖς ἀκινήτοις; in the parallel just above, a22-3, according to the manuscripts, he asks how an ἀρχὴ κινήσεως can exist τοῖς ἀκινήτοις, but Jaeger supplies ἐν here as well, because these the validity of the argument depends on these two passages saying the same thing, and because the K parallel (K1 1059a36-8, cited below), and the answer in Λ7 1072b1-4, have ἐν {Jaeger's apparatus says that Alexander and Asclepius "fortasse" read ἐν here, d check; Jaeger also refers to his Emendationen zur aristotelischen Metaphysik A-Δ, in Hermes v.52 [1917] pp.481-519, at pp.492-3}. without ἐν, the text is unambiguously talking about whether unmoved things can have this kind of cause; with ἐν, it might be easier grammatically to take it as asking whether an unmoved thing can be this kind of cause, but the argument seems only to work against an unmoved thing having this kind of cause, and the first clause, 996a21-2, says unambiguously that many beings (namely the unmoved ones) do not have these kinds of cause. but perhaps there is an implicit inference from "an unmoved thing cannot have this kind of cause" to "an unmoved thing cannot be this kind of cause" (perhaps based on a principle of homogeneity of cause and effect, which might be Speusippean). the Λ7 passage (however we decide the textual dispute at 1072b2-3, see IIIγ1) is answering the aporia by saying that an unmoved thing can be a final cause, which is what Aristotle needs in order to vindicate the possibility that wisdom is a science of the final cause (he should also explain why the desired ἀρχαί will be causes of physical rather than of mathematical things)

[16]note the other passage where Aristotle cites Aristippus, in the Rhetoric: also a matter of contending with Plato for the Socratic heritage

[17]as I will argue in the appendix to this section, it is the proponent of the main argument, and not simply Aristotle himself, who calls Aristippus a sophist, and describes him as "pouring scorn [προπηλακίζειν]" on mathematics, an unusual and intensely loaded expression, literally "bespatter with mud, or trample in the mire" (LSJ), which cannot be used for an action one approves of or is willing to tolerate. note EE III,3: someone who accepts προπηλακισμός easily is slavish and stupid. ditto NE IV,5. at the end of NE V,5 there is a list of things one person might do to another violently: assault, murder, ἁρπαγή (possibly robbery, probably rape or kidnapping), mutilation, κακηγορία, προπηλακισμός. At Politics 1311a36-8 Harmodius resolves to murder the Pisistratids because his sister had suffered προπηλακισμός. At Topics 144a6 Aristotle mentions people who define προπηλακισμός as ὕβρις μετὰ χλευασίας; his only complaint is that χλευασία is a species of ὕβρις and not a differentia. these are the only other uses of the

mathematics as a group of disciplines,[18] but he would not have recognized the mathematicals as a realm of unchanging beings, and he certainly would not have described them as "many of the things that are," as the main argument does at a21--indeed it would be surprising even for Aristotle to describe the mathematicals as "many of the things that are." The author of the main argument regards the mathematicals (and any other equally eternal things that may exist beyond these) as an important realm of beings, whose reality is taken for granted, and he uses their unchangingness as a premiss for arguing about what kinds of causes they have. So he must be an Academic. The fact that eternal unchanging things do not have final or efficient causes is supposed to help show that wisdom is not a science of all four causes, because the author of the argument assumes that wisdom will be a science of eternal unchanging things: that is, wisdom is knowledge of the ἀρχαί, and he assumes that the ἀρχαί will be eternally unchanging, and that they will at least proximately be causes of eternally unchanging things, and at most indirectly the causes of corruptible natural things; so the ἀρχαί will not be final or efficient causes of their immediate effects.

This interpretation is strongly confirmed by the parallel passage in Metaphysics K:[19]

> The science we are seeking must not be supposed to concern the causes which have been named in the Physics. For it is not even[20] about the for-the-sake-of-which: for this is the good, and this exists in things-done and things which are in motion [ἐν τοῖς πρακτοῖς ὑπάρχει καὶ τοῖς οὖσιν ἐν κινήσει]; and this is a first mover--for a τέλος is such--and there is no first mover in immobile things [ἐν τοῖς ἀκινήτοις].[21] (K1 1059a34-8)

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word or its cognates in Aristotle. Aristotle mentions Aristippus in only one other place--in the Rhetoric, not in a hostile way--and has no reason to use such language against him. Ross' explanation of why Aristotle calls Aristippus a "sophist" here (because he allegedly held a subjectivist theory of truth) is wrong and desperate: this is just not what "sophist" means in Aristotle

[18]note from the Aristippus part ἐν τοῖς μαθήμασιν and τὰς μαθηματικὰς [τέχνας]

[19]note that this is separated from the parallel to the rest of the first aporia at K1 1059a18-23

[20]I accept Bonitz' conjecture of οὐδέ for the manuscripts' οὔτε at 1059a35. The for-the-sake-of-which is one of the causes of the Physics, so οὔτε cannot mean "neither the causes of the Physics, nor the for-the-sake-of-which." The alternative is to assume that Aristotle started to write "neither the for-the-sake-of-which ...", intending to go on to rule out the other causes of the Physics in turn, then got into the parenthetical remark of 1059a36-38, then forgot the original construction. The meaning is the same in either case. (I can't make any sense of Ross' suggestion that οὔτε γάρ goes with ὁλῶς δ᾽ in a38.) In either case, Aristotle begins by trying to rule out the final cause, because this is the hard one to rule out, then reduces it to the efficient cause, which is easy to rule out: as in the B parallel, the main point of the argument is to show that not even the final cause can be the object of wisdom. It is curious that there is no argument against the formal or material causes: nor were there in the B parallel, but in B there was no claim to be ruling out all of the causes of the Physics. Perhaps the proponent of the K argument does not take it for granted that the formal cause is one of the causes of the Physics: the nature in the sense of Physics II,1, that is, the per se internal source of motion to a thing, is one of the causes of the Physics, and this kind of cause cannot exist in unchanging things, but the argument may not intend to deny that the ἀρχή can be some other kind of formal cause of unchanging things. Unchanging things might also have a kind of material cause which is not that out-of-which they have come to be.

[21]for the ambiguity of ἐν τοῖς ἀκινήτοις see note above. but parallels to ἐν τοῖς πρακτοῖς suggest that the claim (whatever Aristotle's final attitude toward it) is that the for-the-sake-of-which cannot be an unchanging thing. see fuller and more mature discussion below in IIIγ1, on Λ7 1072b1-4, answering this part of the aporia; d harmonize your discussions here and there and in the appendix to Iα5 on K. note that the close-parenthesis should be after τέλος at the beginning of 1059a38, since τὸ δέ picks up οὔτε or οὐδέ in a35

The proponent of this argument simply takes it for granted that the desired ἀρχή will be an ἀρχή of unchanging things, and uses this assumption to argue that "the causes which have been named in the Physics," being (as the phrase could equally mean) "the causes which have been said to exist in the case of physical things," are not the appropriate things to be looking for in the present pursuit. He infers, in particular, that an ἀρχή of unchanging things will not be an efficient or final cause, and therefore that wisdom will not be a science of efficient and final causes. Since the arguments in K1 and B2 are two versions of the same argument, the (real or fictitious) proponent of the argument of B2 996a21-29 should also be arguing that wisdom does not treat the efficient or final causes. Syrianus gets it right when he summarizes the argument in his commentary on B: "the first and most beautiful sciences deal with unchanging things; but those which deal with unchanging things do not know all the causes, since there is no efficient or final cause in the case of unchanging things; so the first and most beautiful sciences do not know all the causes" (Syrianus 13,30-33).[22]

The proponent of the argument of 996a21-29 is clearly one of those Academics for whom "mathematics has come to be philosophy ... although they say it should be studied for the sake of other things" (A9 992a32-b1): these Academics take over, in one form or another, the ἀρχαί of the Pythagoreans, that is, the ἀρχαί of numbers, which are ἀρχαί in a different way than the causes of natural things, since "the mathematical beings [τὰ μαθηματικὰ τῶν ὄντων] are without motion, except for the objects of astronomy" (A8 989b29-33). The philosopher of B2 996a21-29, who believes that wisdom is about ἀρχαί of mathematicals (and perhaps other unchanging things), and concludes that wisdom does not deal with the causes (efficient and final) which are causes of motion, thus shares many of the traits typical of Pythagorizing Academics as Aristotle depicts them. And yet this man is, in one crucial respect, not at all a typical Academic, since he denies that there is an αὐτοαγαθόν (it does not matter whether this means that there is no αὐτοαγαθόν at all, or just that there is no αὐτοαγαθόν for unchanging things), and he concludes, against every other serious philosopher and against all common notions, that wisdom is not concerned with the good. This man is, in short, Speusippus.[23]

We have already seen (in Iα4 above) the main lines of Aristotle's confrontation with Speusippus. While Aristotle is appalled by Speusippus' conclusions that the ἀρχή is not good and that wisdom is not knowledge of the good, these conclusions are not easy to avoid, given premises that are shared by many philosophers, especially in the Academy: Speusippus is valuable precisely because he does not shy away from unpalatable conclusions, and forces us to examine which of his premisses is mistaken. Speusippus insists, against the evasions of Anaxagoras and Empedocles and Plato as reported in Metaphysics A4-7, that if wisdom is knowledge of the good it must be knowledge of a final cause; Aristotle thinks Speusippus is right. Speusippus also insists, against Plato's lecture on the good as reported in EE I,8, that unchanging objects, and specifically mathematical objects, cannot have final causes; again,

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[22]"In the case of unchanging things" in the Syrianus passage translates ἐν τοῖς ἀκινήτοις: it is clear that this is how Syrianus understands the phrase here, since he paraphrases the argument a few lines down as saying that "the unchanging things do not have [ἔχειν] an efficient or final cause" (14,4-5). Syrianus' own view is that wisdom treats all of the kinds of causes (i.e. the true causes, the final and efficient and exemplar, the others being mere συναίτια); his answer to the present difficulty is that while first philosophy and mathematics do of course deal with unchanging things, these things do have efficient and final causes: the efficient cause will be ποιητικόν in a higher way than by being an ἀρχὴ κινήσεως, and the final cause will be the τέλος not of a πρᾶξις, but of existing and knowing and being-known, as things at all levels proceed eternally from their efficient causes and return eternally to their final causes.

[23]see the appendix to this section on Speusippus and Aristippus

Aristotle thinks Speusippus is right. Speusippus assumes, correctly, that the ἀρχαί are eternal and unchanging. He also assumes that the first ἀρχαί are causes of the first realm of beings, and that these first and highest beings are eternal and unchanging: the objects of mathematics, and especially numbers, are the best candidates we have for this highest realm, being prior to natural bodies both because they are unchanging and because they are simpler than bodies. Here, as we have seen, Aristotle diverges, proposing that the ἀρχαί should be the causes, not of the highest effects, but of the most universal effects, effects common to all beings (see Iβ2b above). But it still seems that the ἀρχαί should be causes of these effects to the mathematicals as well as to natural bodies, and so Speusippus' conclusion still seems to follow, that the ἀρχαί are causes, at least to the mathematicals, in some other way than as final or efficient causes. Aristotle will resolve this objection when he examines the mode of being of the mathematicals, and concludes that they do not exist separately from sensible things. But this is still not enough to defuse Speusippus' challenge. Speusippus decides that the first ἀρχαί are causes of mathematicals, not simply because he thinks that mathematicals are prior to natural things, but also because he thinks (rightly) that the ἀρχαί are eternal and unchanging, and he does not see any causal path up from changing things to unchanging causes: the best candidate for such a causal path was Plato's path up from changing natural things to their unchanging separate formal causes, and Speusippus thinks (rightly) that this does not work. To answer Speusippus' challenge, Aristotle has to find some causal path that leads up from natural things to unchanging causes; and if formal (and material) causes of natural things do not lead to unchanging ἀρχαί, he must find some path of final or efficient causes. However, as Speusippus has just been arguing, final and efficient causes are specifically causes of change or motion, and it does not seem immediately promising to seek changeless ἀρχαί in the causes of change (the Platonic Forms, by contrast, had been posited as causes not of change but of stability). Speusippus has been arguing that final and efficient causes "do not exist for unchanging things [τοῖς ἀκινήτοις]" (B2 996a23)[24] or "do not exist in unchanging things [ἐν τοῖς ἀκινήτοις]" (B2 996a26, K1 1059a38): and while in its context in B the second phrase must mean, like the first, that unchanging things cannot have such causes, K seems to be suggesting the plausible further inference--one Speusippus would endorse, since he thinks ἀρχαί are homogeneous with their effects--that unchanging things cannot be final or efficient causes. When K says here that the for-the-sake-of-which exists ἐν τοῖς πρακτοῖς καὶ τοῖς οὖσιν ἐν κινήσει, and when the "Speusippean" passage of M3 says that the good is ἀεὶ ἐν πράξει (1078a31-2), the argument seems to claim that this cause cannot itself be unchangeable; EE I,8 had argued similarly that nothing unchangeable can be a final cause ("this kind of good, the for-the-sake-of-which, is πρακτόν, and the [kind of good that exists] among unchangeable things [τὸ ἐν τοῖς ἀκινήτοις] is not," 1218b5-7). Of course, even in the Eudemian Ethics, Aristotle thinks that these arguments can be resolved, and that at least a final cause can be eternally unmoved; but our aim now is to understand how, in the first aporia, Aristotle is setting up the difficulties that he will later show how to resolve.[25] The first aporia (in its B and K versions) asks us to decide whether to look for the ἀρχαί as formal or final or efficient causes; then, assuming that we are looking for something beyond the natural and changeable ἀρχαί of the physicists, it argues that we should not be looking for final or efficient causes, and, if there are no eternal Platonic Forms of natural things, that we should not be looking for causes of natural things at all, but rather for the ἀρχαί of mathematicals. For Aristotle, to take this advice would mean giving up on most of what is valuable in the project of wisdom; the first aporia sets

[24] without Jaeger's emendation, see an extended note above

[25] see discussion of Metaphysics Λ7 1072b1-4 in IIIγ below; this passage echoes the EE VIII,3 response to EE I,8

us the task of finding something better.

The short argument and its solution

In this context we can look again at the other argument Aristotle gives in the first half of his discussion of the aporia: "how would it belong to one science to know the ἀρχαί, if they are not contraries?" (996a20-21). The different ἀρχαί here are the material, formal, final and efficient causes of a thing, or perhaps rather the different ultimate ἀρχαί that we might hope to reach by pursuing chains of material, formal, final or efficient causality. The point of the question is to bring us to realize that we have to choose which of these different kinds of knowledge will give wisdom; or, anyway, to realize that there are prima facie grounds for thinking that we have to make this choice, unless we can find a reason for thinking that a single science will be knowledge of all the different kinds of cause. Then the following, Speusippean, argument shows that some of these kinds of cause, the final and efficient, are not available in the case of some beings, the ἀκίνητα. Since we have some reason to think that wisdom should consist in the knowledge of causes of this class of beings, we have some reason to think that these are not the kinds of causes we should pursue. Then, in the second half of the discussion, Aristotle sets out the cases that can be made for each of the different kinds of cause as a path to wisdom, assuming that the sciences of the different kinds of cause are indeed distinct. However, it is not obvious that they are: as we have seen, the Speusippean argument leaves open the possibility that for some things, the things which have all four kinds of causes, there is a single science of their four causes. If wisdom turns out not to be (or not to be exclusively) a science of the causes of ἀκίνητα, it might be a science of all the kinds of causes at once, and then the choice urged on us by the second half of the discussion would not arise. The only argument Aristotle gives here against this possibility is the one-line argument we have quoted: "how would it belong to one science to know the ἀρχαί, if they are not contraries?" (996a20-21). By itself, this is hardly a conclusive argument, and perhaps Aristotle thinks that it can be resolved, and that wisdom will indeed be a single science of all four kinds of cause. As Décarie and others have noted, this suggestion is supported by Aristotle's conclusion, in Physics II and elsewhere, that the physicist investigates all four kinds of cause. But we have to examine the grounds of Aristotle's solution in the case of physics, to see whether it also applies to wisdom.

To understand Aristotle's question, "how would it belong to one science to know the ἀρχαί, if they are not contraries?" (996a20-21), we have to start by taking it seriously. Often the commentators have not: from Alexander on down, they have tried to solve the problem by patiently explaining that we cannot validly convert "the science of contraries is the same" into "things of which the science is the same are contraries" (so Alexander 181,2-16), as if it were this kind of logical mistake that had given rise to the difficulty. But Aristotle is asking a serious question: if X and Y are not the same thing, in general the science of X and the science of Y are also not the same; the most obvious, though not the only, exception is when X and Y are contraries.[26] If the ἀρχαί to be reached by different causal chains are not contraries, it is reasonable to ask for some other reason why the science of these different things should coincide.[27]

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[26]on the Platonic and Aristotelian thesis that the science of contraries is the same, see Iβ2a above, with a list of references

[27]Colle, pp.210-11, is almost alone among modern commentators in taking the aporia seriously and explicating it correctly

To understand why this is a serious problem, we have to remember what Aristotle means by asking whether the science of X and the science of Y are the same. An ἐπιστήμη is an accident in the category of quality inhering in the rational soul, namely a certain ἕξις of knowledge; if the ἐπιστήμη of X and the ἐπιστήμη of Y are the same, then whoever has habitual knowledge of X has habitual knowledge of Y and vice versa. If this condition is met, then the ἐπιστήμη of X and the ἐπιστήμη of Y are specifically one (they can never be numerically one, because the ἐπιστήμη of X is not numerically one even with itself, since my ἐπιστήμη of X and your ἐπιστήμη of X inhere in numerically different substances). But the condition for a science to be specifically one is quite strict, and often will not be met. If X and Y are specifically different (say X is a cat and Y is a dog) then in most cases the science of X and the science of Y will also be specifically different: it is possible to possess a habitual knowledge of cats without possessing a habitual knowledge of dogs, and therefore these qualities must be distinct. It is indeed possible to say, in a looser way, that there is a single science which treats both cats and dogs: because cats and dogs both belong to the genus animal, a person who knows all animals will know both cats and dogs, and so we may say that the science of animals treats both cats and dogs. But the science of animals is only generically one science, as its object has only generic and not specific unity: thus the science of cats and the science of dogs are generically but not specifically one.[28]

The most obvious instance where the unity of the science outstrips the unity of its object, where two objects that are only generically one have a science that is specifically one, arises where the two objects are contrary in species. Thus because white and black are two contrary species of the genus color, the science of white and the science of black are not only generically one (since they both fall under the science of color), but also specifically one, since anyone who knows the specific properties of white will also know the specific properties of black: so that if, for example, I know white as "that which expands the visual ray," I will simultaneously know black as "that which contracts the visual ray." Contraries are not the only instance where two specifically different things have a specifically identical science: there is always a specifically identical science of specifically opposite things, whether these are contraries, or contradictories, or possession and privation, or correlates like parent and child or double and half.[29] But here too there is an intimate relation among the objects, such that any account (as given, say, in a definition) of one immediately involves an account of the other. If there is to be a single science of the four kinds of cause, they also must be so intimately related, as identicals or contraries or correlates or in some other way.

Where commentators have taken this point seriously, and have tried to answer Aristotle's question in Aristotelian terms, they have argued that the four kinds of causes are either correlates or specifically identical. As Alexander puts it,

> someone might say that the ἀρχαί can be reduced to opposites, the ποιητικόν [active, productive, efficient] and the παθητικόν [passive], if the matter is παθητική and the three causes besides the matter are reduced to the formal, and this is ποιητικόν: for everything which ποιεῖ [produces or acts], ποιεῖ according to the form and perfection that it possesses. (181,19-23)

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[28] this takes care of Alexander's two objections at 181,16-19 (note on the second of these, which has usually been misconstrued: the point is simply that physics and practical philosophy both fall under the genus "knowledge")

[29] cp. above Iβ2a. references for ἀντικείμενα: Categories c10-11, Metaphysics Δ10, specific discussion of correlatives in Metaphysics Δ15; note also discussion in Topics VI, the definition or knowledge of one necessarily involves the other (note a possible exception for the measure and the thing measured)

This is indeed what Aristotle thinks about the relations between the four causes; and Aristotle argues in this way particularly where he is arguing that physics, as a generically single science, treats all four kinds of cause, or that the specific subsciences of physics each treat all four causes of their particular object. I will first use some Aristotelian texts to unpack Alexander's account for the case of physics, where Alexander is right; I will then look at the implications for what causes wisdom treats, and show that Alexander's considerations support the exact opposite of his intended conclusion.

Alexander is making two separable points: first that the three non-material causes are "reducible" to the formal cause, and hence in some way identical; and then that this cause and the material cause are in some way opposites. I will deal first with the relations between the three non-material causes.

There are at least three texts where Aristotle explicitly argues that the three non-material causes of a natural thing are either numerically or specifically identical. Either numerical or specific identity is enough to imply that there is a specifically single science of the different causes of a given kind of thing; and in two of the texts this is the conclusion Aristotle is arguing for. The most cited text is from Physics II,7:

> Since there are four causes, it belongs to the physicist to know them all, and he will answer the question 'why' as a physicist [φυσικῶς] by referring to all of them, the matter, the form, the mover, the for-the-sake-of-which. And often the three come to one: for what-it-is and the for-the-sake-of-which are one, and the whence-first-the-motion is the same as these in species: for a man is generated by a man. (198a22-7)

As Aristotle makes clear elsewhere, the three non-material causes coincide in this way for every natural generation. The efficient cause cannot produce the form in the matter unless it already possesses specifically the same form, i.e. unless it is a member of the same species: we can say that the efficient cause is one in species with the effect, or that it is one in species with the form of the effect, since it is the form of the generator that is most properly responsible for generating. The formal cause coincides in turn with the final cause, because we can define a given natural thing, or say what it is, only by saying what it is for. Thus a given animal, or a given part of an animal, is what it is only because it is disposed in such a way as to carry out its characteristic work, and this is only when it is ensouled: "for when soul has departed it is no longer an animal, nor does any of its parts remain the same, except in shape alone, like the animals that are said in myths to have been turned to stone" (PA I,1 641a19-21). For this reason, the soul, or the part of the soul that carries out activities using the organs, must be given in the definition of the animal, i.e. must be a formal cause of the animal, and not simply something superadded using the animal body as a tool (the soul does use the animal body as a tool, so it is a mover or efficient cause and a beneficiary or final cause of the body, but it is also a formal cause of the body and not something superadded to an already constituted animal body). Aristotle gives this argument in the De Partibus Animalium to prove that the physicist, in giving an account of animal bodies, will have to give an account of soul: for, more generally, the physicist is he who studies the nature of a given natural thing, and "nature is said, and is, in two ways, as the matter and as the substance: and this latter is also the mover and the end" (PA I,1 641a26-8). For an animal, this nature is a soul, and as Aristotle says in De Anima II,4:

> The soul is a cause and ἀρχή of the living body. And these are said in many ways, but the soul is equally a cause in the three ways that have been distinguished:[30] for the soul is whence-the-motion, and for-the-sake-of-what, and the cause as the substance of the ensouled bodies. (415b7-2)

Alexander is thus quite right to cite these Aristotelian considerations about the relations among the three non-material causes to show that a single science--physics, or a specific subscience of physics--will study, at least, these three kinds of cause. Alexander is also right that similar considerations about the relations between material and non-material causes will show that the science that knows the material cause also knows the other three causes, and that the science that knows the other three causes also knows the material cause.

Alexander says that "the ἀρχαί can be reduced to opposites, the ποιητικόν and the παθητικόν, if the matter is παθητική and the three causes besides the matter are reduced to the formal, and this is ποιητικόν" (181,19-22). In saying that the material and formal causes are opposites, Alexander does not mean that they are contraries (a Platonic thesis that Aristotle rejects in distinguishing matter from privation in Physics I,9), but rather that they are opposites as correlatives [ἀντικείμενα ὡς τὰ πρός τι], since correlatives are one of the four classes of opposites as given in Metaphysics Δ10, and the ποιητικόν and παθητικόν are one of the three classes of τὰ πρός τι as given in Δ15. If the material and formal causes are opposites in this way, then it belongs to one science to know them both, and so to know all four kinds of cause.

This too is a genuinely Aristotelian argument. In Physics II,2 Aristotle says explicitly, as one (in itself sufficient) argument that physics studies both matter and form, that "matter is a relative [τῶν πρός τι, partitive genitive]: for there is a different matter for a different form" (194b8-9); and of the three kinds of correlatives, the only possibility is that form and matter are related as ποιητικόν and παθητικόν. The matter that is an immediate cause of a given thing is not a single universal substratum, equally capable of receiving all forms, like the receptacle of the Timaeus. Rather, Aristotle insists that in assigning material causes, we must cite the appropriate matter of each kind of thing [ἡ οἰκεία ὕλη, Metaphysics H4 1044a15ff]: the matter of X must be what is potentially X. But we can say what the potentially-X is only by referring to an account of the actually-X: both the housebuilder (he who is able to build a house) and the material of housebuilding (what is able to be built into a house) must be defined with reference to the activity of housebuilding, so that "necessarily the λόγος [of the actual] must exist prior [to the λόγος of the potential], and the knowledge [of the actual] to the knowledge [of the potential]" (Θ8 1049b16-17). So we cannot define, or have scientific knowledge of, the appropriate matter of X unless we have an account of X itself, that is, unless we have grasped the form of X. Thus the matter is πρός the form: and it is πρός the form as the παθητικόν to the ποιητικόν, the capable-of-being-acted-on to the capable-of-acting, since the matter of X is what is capable-of-being-made-X and the form of X is what is capable-of-making-X.[31]

From this correlativity of matter and form, Aristotle concludes that the science of the matter and the science of the form are the same. So in De Anima I,1 he asks whether the person who gives an account only of the matter of a thing ("anger is the boiling of the blood around the heart"), or the person who gives an account only of the form ("anger is desire for revenge"), or the person who gives the combined account ("anger is the boiling of the blood around the heart

[30] this apparently refers to a list of three causes, excluding matter as a mere συναίτιον.
[31] recall the other options

due to desire for revenge"), is the true physicist: Aristotle answers, not only that the true physicist will give the combined account, but that there is no one who knows only the matter, since we cannot have scientific knowledge of the matter of a thing without knowing its form. Similarly, in Physics II,2, having said that both the matter and the form of a natural thing are in a way its φύσις, he asks which of these the physicist will treat, and answers that it belongs to the same science to treat both, even though "to someone who looks at the ancient [physicists] it would seem that [physics treats] the matter [alone]" (194a18-19). "If art imitates nature, and it belongs to the same science to know the form and the matter up to a point (as it belongs to a doctor to know health, and bile and phlegm, in which health exists, and likewise it belongs to a housebuilder to know both the form of the house and the matter, like bricks and wood, and similarly with the other arts), it would also belong to physics to know nature in both senses" (194a21-7). The reason why each art treats both the matter and the form emerges from Aristotle's next argument: "it belongs to the same [science to know] the for-the-sake-of-which and the end, and the things that are for the sake of these" (a27-8). Thus the art of housebuilding must know both the function of a house, and the means by which this function can be fulfilled, so it must know what materials are suitable for making floors and walls and roofs; and likewise the science of physics must know both the form of a natural thing (e.g. the soul of a given kind of animal) and the materials in which that form can be realized.[32]

The arguments we have seen are chiefly arguments that the matter cannot be known scientifically without the form. But Aristotle also insists that the form cannot be known scientifically without the matter, and that it cannot be rightly defined without reference to the matter. As he puts it in Physics II,2, "since nature is twofold, the form and the matter, we should investigate as if we were investigating what snubness is: such things [as snubness] are neither without matter nor [said] according to the matter" (194a12-15). The point is that "natural things ... are less separable than mathematical things, as would be clear if one tried to give the definitions, both of these things and of their attributes" (193b36-194a3), since natural things are not definable without some particular kind of matter (a matter naturally movable in a particular way), as "snub" is not definable without nose: "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" (194a3-7). A particular example is the parts of soul whose actions are through the bodily organs, since these cannot exist without matter and motion: these parts of soul are forms in the way that snubness is, and so we cannot give an account of them without an account of the bodily organs, just as we cannot give an account of the organs without an account of them.[33]

What Aristotle is doing in Physics II,2 and De Anima I,1, and in Metaphysics E1 1025b30-1026a6 (which again describes physics as studying forms analogous to snubness)[34] is to challenge the accepted division of competences between physics and dialectic. As Aristotle says in Physics II,2, if we looked at the ancient physicists we would think that physics considers only the matter; and Plato accepts something like this description of physics. Plato says in Republic VII that it is only dialectic that gives an account of the τί ἐστι of each thing, that is, only dialectic that studies the forms of things; he is implicitly denying that physics investigates τί ἐστι, and his view seems to be that the physicists merely narrate how and whence each thing arose, without defining what the thing is, and thus without being able to demonstrate anything

[32]note on the user's vs. the maker's art
[33]references, including Metaphysics E1 as cited below
[34]reference to fuller discussion--in Iγ1a?

about it.[35] Against this, Aristotle is arguing that physics (when it is done rightly), does not simply narrate but also demonstrates and defines, though it defines in a peculiar way, the way that "snub" is defined; and this is to say that physics considers the forms of things. In De Anima I,1, when Aristotle proposes the accounts of anger as "desire for revenge" and as "the boiling of the blood around the heart", the first of these is the standard dialectician's account,[36] and the second is the stereotype of what the pre-Socratic physicist would say. Aristotle expects his readers to expect that the physicist will describe only the matter, "the boiling of the blood around the heart," and that the dialectician will describe only the form, "desire for revenge"; against his reader's expectations, Aristotle argues that only a bad physicist describes the matter alone, and that true scientific physics gives an account of the form as well as the matter. Besides claiming scientific status for physics, Aristotle is also thus denying scientific status to dialectic, at least when dialectic tries to give an account of natural things (such as the passions and habits of the soul). When the dialectician defines anger as "desire for revenge," this is not a scientific definition, since a scientific definition states the cause, which is in this case the boiling of the blood around the heart. The dialectician's definition, like the definition of thunder as "noise in the clouds," can only state an ἴδιον of the thing; this is a useful starting point for finding a scientific definition of the thing, but does not itself give scientific knowledge. Because matter and form are correlative, it is only the physicist, who knows the matter of the thing, who can also give its form; the Platonic dialectician, in trying to grasp the form by thinking away the circumstances of the matter and genesis of the thing, can grasp only a fictitious object, the form-without-the-matter, which is the object of no science. "Those who say that there are Ideas do this unawares, for they separate natural things, although these are less separable than mathematicals" (Physics II,2 193b35-194a1), since anger without blood is no more intelligible than snubness without a nose.

So far, in spelling out the Aristotelian claims that the three non-material causes are identical and that the material and non-material causes are correlative, we have looked only at texts from the physical works. In Metaphysics A-Δ Aristotle breathes no hint that physics treats the formal cause. As we will see in the next section, much of Metaphysics B is devoted to posing the question "which discipline will be wisdom: physics, dialectic, or mathematics?". At this stage of the argument, Aristotle is raising difficulties for each of the established disciplines for getting to the ἀρχαί, so as to motivate his subsequent announcement of a new discipline for wisdom. So at this stage of the argument Aristotle is deliberately assuming, contrary to his own opinion, that these three disciplines are the only options; he also assumes, contrary to his own opinion, that physics is just the investigation of the material constituents from which a thing arose, and that dialectic is just the investigation of the form or definition of the thing. Aristotle first challenges both of these assumptions in Metaphysics E1: as we have seen,[37] the classification of the three theoretical sciences, physics and mathematics and first philosophy, is meant as an argument that first philosophy must be something different from mathematics and also (if there is a separate unmoved substance) different from physics, and also (unless dialectic turns out to be a science of separate unmoved substances, i.e. unless there are Platonic Forms) different from dialectic. What he says here about physics challenges the Platonic division of competences between physics and

[35] see above Iα3

[36] references; note Aristotle uses this account in the Rhetoric, where the audience is not assumed to know physics and does not need scientific accounts of the passions

[37] in Iα3; more discussion in Iγ1a. there is overlap between the present discussion and those two, which should be eliminated if possible; at a minimum, add cross-references

dialectic, chiefly with the intent of challenging the claim of dialectic to be the science of the forms of natural things. Aristotle calls on the arguments we have seen from the physical works:

> Since physical science too is about a genus of being (for it is about the kind of substance that has an ἀρχή of motion and rest within itself), it is clear that it is neither practical nor productive (for the ἀρχή of things-produced is in the producer, either νοῦς or art or some kind of power, and the ἀρχή of things-done [πρακτά] is in the doer, namely choice: for the thing-done and the thing-chosen are the same), so that if all thought is either practical or productive or theoretical, physics would be a kind of theoretical [science] [θεωρητική τις], but theoretical about this kind of being which is capable of being moved, and about a substance-in-the-sense-of-the λόγος which is for the most part inseparable only. But it must not escape us how the τί ἦν εἶναι and the λόγος are, since it is impossible to produce any investigation without these. Of things-defined and τί-ἐστι-s, some are like the snub and some are like the concave. These are different because the snub is taken-together with the matter (for the snub is a concave nose), while concavity is without sensible matter. So if all natural things are said like the snub, like nose, eye, face, flesh, bone, and animal as a whole, leaf, root, bark, and plant as a whole (for the λόγος of any of these is not without motion, they have a matter in every case), it is clear how we must investigate and define the τί ἐστι in natural things, and it is clear why it belongs to the physicist to consider about some soul, however much of it is not without matter.[38] (1025b18-1026a7)

Aristotle's main emphasis here falls on the claim that physics is theoretical, where this is closely bound up with saying that physics defines, and that it considers the forms of natural things. Aristotle expects this claim to go against his readers' expectations, and to need defense; he speaks concessively of physics as "θεωρητική τις", and concedes that it defines only in a peculiar way, and studies only a peculiar kind of form.[39] All of this is against the Platonic assumption that physics simply narrates how, and out of what, each kind of natural thing arose, leaving it to dialectic to define what it is for something to be this kind of natural thing. If physics defines natural things (and so grasps their forms, if only in a peculiar way), then we can no longer simply assume, as Plato would like to, that wisdom or first philosophy is the science of separate immaterial substances, where this is dialectic, where this is the science of the forms of natural things. On the contrary, if we want to show that wisdom is something beyond physics, that there is a science of separate immaterial things, then we face the challenge either of showing that there are also Platonic immaterial forms of natural things, beyond the enmattered forms like snubness that physics considers, or of showing that there is some other kind of separate immaterial substance, which is not the form of a natural thing, but is a cause in some other way.

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[38] textual issues: in b28, E (followed by Ross) seems to be isolated among the primary witnesses in reading the second ὡς (M agrees with A^bJ in omitting it), so for stemmatic reasons it should be omitted unless clearly needed for the sense--see Ross' note, his comment on Bonitz, his worry about οὐ and μή; Jaeger omits the second ὡς and prints a comma like Bonitz, interpreting as Bonitz μόνον = πλήν. in b25-6, where EJ have ὥστε εἰ ἅπασα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητική, ἡ φυσικὴ θεωρητική τις ἂν εἴη, A^bM have ὥστε πᾶσα διάνοια ἢ πρακτικὴ ἢ ποιητικὴ ἢ θεωρητική τις ἂν εἴη, but what follows applies only to physics: a scribe must have skipped from one θεωρητική to the next, and then the first εἰ was deleted to restore sense, but not satisfactorily … also an issue earlier about ποιητῶν or ποιητικῶν, πρακτῶν or πρακτικῶν, but seems clear … how thorough on text-issues here?

[39] the concessive force of "θεωρητική τις" is guaranteed by the following "ἀλλά"

Aristotle's own view, of course, is that there are no Platonic forms, that the form of a thing is always correlated with its matter and can neither exist nor be known apart from its matter, and the separate immaterial substances that are the objects of first philosophy are causes in a different way.

This shows that Aristotle's answer to the first aporia cannot be to say that wisdom is the science of all four kinds of cause, or even of the three non-material kinds. Wisdom or first philosophy is not the science of the formal causes of natural things: physics is. First philosophy is the knowledge of things, not only conceived without regard to matter, but existing really separated from matter: it cannot know the forms of things, because the forms of things cannot be known except through knowing their matter, and the science that knows the matter is physics (more strictly, physics knows the matter and the form of natural things, and the productive arts know the matter and the form of their respective artifacts).[40] The point of texts like Physics II,2 and the Metaphysics E1 discussion of physics is to transfer the forms of natural things from the domain of first philosophy (where Platonic dialectic would keep them) to the domain of physics. Aristotle never admits the possibility that physics and first philosophy will share jurisdiction over the same forms: thus De Partibus Animalium I,1 discusses which parts of soul will be studied by physics and which by first philosophy, without entertaining the possibility that there is any part of soul that they both study.[41] Indeed, Aristotle does not believe that the same thing can be the object of two sciences, except per accidens, as Coriscus, because he is both white and heavy, can be an object both of optics and of mechanics. There are no texts in Aristotle to support the view that first philosophy is a science of forms, either on the ground that first philosophy and physics both treat the forms of natural things, or on the ground that first philosophy treats divine forms separated from matter: Aristotle never uses the word "form" for a separate immaterial substance that he himself believes in, but only for ones that Plato believed in.[42] There are indeed texts that assign an investigation of forms to first philosophy, but all (three) of these texts are making the point that, while physics investigates the enmattered forms of natural things, the task of investigating whether there are also separate Platonic forms of natural things falls to first philosophy. Thus at the very end of Physics I, summing up what lines

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[40]references: De Anima I,1, Physics II,2

[41]reference (PA 641a33ff) and discussion. the text does not actually use the phrase "first philosophy," but the reference is clear

[42]references to Ryan, and discussion--there should be some central place where you discuss this issue. a more up-to-date version of the discussion of these three passages from the Metaphysics and Physics is in "La sagesse comme science des quatre causes?" you might also want to add (i) a discussion of the passage at the end of Z3, where the form is ἀπορώτατον and most to be investigated, perhaps just refer to proper treatment in IIα; (ii) the passage from the GC about things having their form not in matter--in context, these are clearly arts; (iii) the "second-order" interpretation of the Physics passages (defended inter alia by FP in the text I cite a few notes down), on which at least the Physics I,9 passage would be saying that physics studies these particular forms, first philosophy studies the concept of formal causality--this might be plausible in the I,9 passage given a (wrong) weak reading of "ἀρχή", but I have no idea how anyone could read the II,2 passage this way, and the II,2 passage shows how to interpret the I,9 passage (note also that the promise in the I,9 passage is taken up in Metaphysics Λ, which again shows how it is to be taken). this is also connected with Irwin's second-order reading of Metaphysics A on the four causes, where (as in Kant) metaphysics considers general concepts, including the concepts of the four causes, and investigates their claims to objectivity; this would also lead to a second-order reading of the first aporia. indeed, Leszl says that the arguments Aristotle gives in the first half of the first aporia succeed in showing that there cannot be a single first-order science of the four causes, and therefore (since Leszl, like Aubenque etc., thinks it is a necessary condition for wisdom that it be a science of all four causes) they establish that wisdom must be a second-order science. the conclusion is absurd, but Leszl and Aubenque are at least recognizing the force of the arguments in the first half of the first aporia, which most scholars do not

of inquiry he will and will not pursue, Aristotle says, "about the formal ἀρχή [ἡ κατὰ τὸ εἶδος ἀρχή], whether it is one or many, and what it is or what they are, it is the task of first philosophy to determine precisely, so let [that inquiry] be put off until that time; in what will be shown further on [in Physics II and the rest of the physical works] we will speak about natural and corruptible forms [and not about any eternal ἀρχαί that might be reached by formal causality]" (Physics I,9 192a34-b2). Similarly, the end of Physics II,2 asks "how far should the physicist know the form and the τί ἐστι?", and answers, "as a doctor [knows] sinew and a smith [knows] bronze, as far as [knowing] what each thing is for the sake of, and about these things which are separate in form/species [χωριστὰ εἴδει], but are in matter; for a man and the sun generate a man [sc. and the Platonic Form of man, if there is one, does not, so that the physicist investigating the generation of man does not have to know about this kind of form]. But how the separate [form] is disposed and what it is, it is the task of first philosophy to determine" (194b9-15).[43] Finally, Metaphysics Z11, after speaking about the matter and form of sensible substances, says "whether besides the matter of this kind of substances there is some other [matter], and whether we should seek some other substance, 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 substances too, since the investigation of sensible substances 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 [substance] in the sense of the λόγος, and indeed [he is] more [concerned with substance as form than with substance as matter]" (1037a10-17).[44] While this passage has its difficulties, it is in any case saying that, since physics studies not only the matter but also the form of natural things, the investigation of the forms of sensible substances does not belong to first philosophy, except as a means to knowledge of non-sensible substances.[45] While this passage does not say how studying the forms of sensible substances will help us investigate non-sensible substances, the obvious answer is that it helps us determine whether sensible substances have separate Platonic forms ("numbers or something of this kind"); this would fit with what Physics II,2 says about where physics leaves off and first philosophy begins. In any case, this text does not say that physics and first philosophy share jurisdiction over enmattered forms, nor does it describe the god of Metaphysics Λ as a form: if first philosophy studies forms, this is either because it is investigating the claims of Platonic Forms, or (less plausibly) as a means to understanding some kind of non-sensible substance that is not a form.[46]

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[43]cite parallels, argue for your interpretation if necessary; Metaphysics Λ3 1070a26-30 (on "a man generates a man" and the implications) is decisive. Ross interprets correctly. (NB I'm accepting Ross' emendation earlier in this Physics passage--d flag). Aristotle is not referring in this passage to any immaterial substances other than the Platonic Forms

[44]note on textual problems; refer ahead to IIδ for discussion

[45]compare the attempt of Frede and Patzig ad loc. to avoid this conclusion, and note what they do to the grammar of the sentence: in τούτου γὰρ χάριν καὶ περὶ τῶν αἰσθητῶν οὐσιῶν πειρώμεθα διορίζειν, they take καὶ chiefly with τούτου γὰρ χάριν, thus "also for the sake of this". is there any parallel for "καί" = "also" put after the phrase it governs?

[46]note against the idea that there is a characteristic way that first philosophy considers enmattered forms, distinguished from the characteristic way that physics treats enmattered forms by being more abstract and general ... thus FP ad locum: "general investigations into the relation of form and matter, into the οὐσία of each individual thing, into the object of definitions, and so on, are not the task of the physicist, who has [rather] to investigate the particular form and matter of individual kinds of objects": this would turn Physics I-II into first philosophy, and is very different from the way this text itself draws the distinction. also against the idea that while the physicist defines an X by citing both its form and its matter, there will be another, "metaphysical," definition that cites only the form: this could only be a dialectical definition, and that is an unscientific definition giving an ἴδιον instead of the τί ἐστι:

If the knowledge of the forms of natural things is physics and not first philosophy, then first philosophy must be the knowledge of some other kind of cause. Certainly the first philosopher will investigate the formal causes of natural things, in order to see whether they lead to separate immaterial forms; but the answer is negative, and so this investigation belongs to first philosophy only in the sense that it is the task of the first philosopher, and not of someone else, to investigate unsound arguments which would belong to first philosophy if they were sound. The first philosopher will also investigate the causal chains that are supposed to lead up from mathematicals to their ἀρχαί, the One and whatever the material ἀρχή is supposed to be, but again the results are negative. The positive task of first philosophy is to find a causal chain that leads up from natural things to a substance existing without matter and separate from natural things: since this cannot be a formal or material cause, it must be an efficient or final cause. However, it might seem that the argument we have given that first philosophy cannot be a (positive) science of the formal causes of natural things would also be an argument that first philosophy cannot be a positive science of efficient or final causes of natural things. The science of the formal cause must be physics, since the form and the matter are correlate and are therefore known by the same science; but the efficient and final and formal causes are all either numerically or specifically identical, so they are all known by the same science, namely physics. However, if we go back to the passage where Aristotle explains most fully the identity of the efficient and final and formal causes, in De Anima II,4, we can see that this identity does not hold for all kinds of final causes. Aristotle argues in this chapter that the soul is a cause to the living body in three ways, as its mover, as its form, and also as its final cause, but he also says that there are two kinds of final cause: "the for-the-sake-of-which [τὸ οὗ ἕνεκα] is twofold, the to-attain-which [τὸ οὗ] and the to-benefit-whom [τὸ ᾧ]" (415b2-3, b20-21).[47] The soul is that for the sake of which the organic body exists and acts, as the user and beneficiary of the organs, but the final cause to-attain-which is something superior and not identical to the formal cause: "the most natural work of living things, those that are perfect and are not mutilated or generated spontaneously, is to produce another like itself, an animal [producing] an animal and a plant a plant, in order that they may participate, so far as they are able, in the eternal and the divine: for all things desire this, and do what they do by nature for the sake of this: the for-the-sake-of-which is twofold, the to-attain-which and the to-benefit-whom" (415a26-b3). Since the soul is benefitted by the use of the organs, it cannot be something eternally unchanged; but there is no reason why the to-attain-which cannot be eternally unchanged, and indeed it is in its eternal unchangingness that the divine is a desirable model, which the living thing seeks to imitate by securing the eternity of its species. This recalls the point in Eudemian Ethics VIII, where Aristotle distinguishes φρόνησις, as the ultimate epitactic ruler in the soul, from god as the ruler for the sake of which, as to attain which, φρόνησις gives commands: "the for-the-sake-of-which is twofold, as we have distinguished elsewhere" (EE VIII,3 1249b15). The argument here is that, since god is eternally unchanging, he cannot be benefitted, and since he cannot be benefitted, he

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cite Suzanne Mansion on this, in "τὸ σιμόν et la définition physique" {this note might go better elsewhere? there's probably a more thorough discussion in treating E1 in Iγ1a and/or in treating Z11 in IIδ}

[47]cross-reference to discussions in Iα2 (pp.12-13) and Iα4 (pp.5-6), and at greater length in IIIγ--duplications should be avoided if possible, but at least there should be cross-references between all these passages. note on the textual duplication in DA II,4: the first passage might be a gloss. in at least one of these places you need to note what seems to be (or to have been) the popular continental view that in DA II,4 it is the soul that is the οὗ and the eternal and divine which is the ᾧ: this goes with not recognizing the genitive as a genitive of aim, and sometimes gets explained by saying that the οὗ is the "immanent" and the ᾧ is the "transcendent" final cause (how the genitive/dative contrast is supposed to signify this, I have no idea)

does not give commands; but once again, it is (in part) because he is eternally unchanging that he is a desirable object for the soul to imitate and to contemplate.[48] The possibility of this kind of final cause, distinct from the formal cause and existing beyond natural and changeable things, offers a solution to the first aporia of B, and Aristotle develops this solution in Metaphysics Λ. "that the for-the-sake-of-which exists in unchanging things [ἐν τοῖς ἀκινήτοις] becomes clear through the distinction: for the for-the-sake-of-which is [both] to-benefit-whom [τίνι] and to-attain-which [τίνος], of which the one exists [in unchanging things] and the other does not" (Λ7 1072b1-3).[49] Aristotle has not drawn this distinction earlier in the Metaphysics, but is referring to a distinction drawn elsewhere (perhaps in the EE or the De Anima, but Physics II,2 194a35-6 cites the De Philosophia for this distinction): Aristotle is introducing it into the argument here in Λ7 in order to answer the first aporia, which had argued that the for-the-sake-of-which cannot exist ἐν τοῖς ἀκινήτοις (B2 996a26-9, cp. K1 1059a34-8). As we saw, the (Speusippean) argument of the first aporia had slipped from arguing that unchanging things cannot have final causes to arguing that they cannot be final causes; Aristotle accepts the first claim but is challenging the second, which is what he needs to challenge in order to answer the aporia and to show that first philosophy (as distinct from physics) can be a science of final causes of natural things. The basis of the solution is the thought of EE VIII,3 and De Anima II,4, that a separate eternally unchanging object of contemplation and/or imitation can be a final cause of the motions of a living thing. Aristotle here applies this to the motions of the heavenly bodies, which are the causes of all other natural things, and in Λ10 he draws the conclusion that the ἀρχή of all things is a good-itself and a final cause, and thus that wisdom is the knowledge of such a final cause: and this, when filled out, is Aristotle's solution to the first aporia.

In Λ10, after describing the ἀρχή as a good existing "separate and αὐτὸ καθ᾽ αὐτό" (1075a12-13), Aristotle turns to criticize his predecessors' accounts of the ἀρχή or ἀρχαί: I will pull out here only the points directly relevant to the first aporia. Besides criticizing Speusippus for failing to make the good an ἀρχή (1075a36-7), Aristotle criticizes everyone else, who "say, rightly, that it is an ἀρχή, but do not say how the good is an ἀρχή, whether as τέλος or as mover or as form" (1075a38-b1). Wisdom is knowledge of the ἀρχή, and the good-itself, being prior to everything else, is strictly the only ἀρχή ("the rule of many is not good, one ruler let there be," 1076a4).[50] So the question whether this good-itself is a τέλος or a mover or a form is just the question of the first aporia, whether wisdom is a science of final or efficient or formal causes. As we saw in Iβ1 above, Aristotle is here picking up on his criticisms of Anaxagoras and Empedocles and Plato in A7, Plato having used the good as a formal cause and Anaxagoras and Empedocles as an efficient cause (and Empedocles also as a material ingredient of the original mixture), but no one having clearly used it as a final cause. Aristotle denies that the good-itself is a formal cause, in the first instance because no separately existing substance can be the formal cause of any other substance, but also because the ἀρχή, which he has argued to be immaterial and to be pure ἐνέργεια, would then have a contrary privation: "for the others it is necessary that there be something contrary to wisdom and the most honorable knowledge, but for us it is not: for there is nothing contrary to the First: for all contraries have matter, and these things are in potentiality"

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[48] reference to previous discussions

[49] full discussion in IIIγ1: forewarning that the textual situation is highly controversial. for reasons which I explain in IIIγ1, I follow the text of Christ, Jaeger and Ross, except that I accentuate τίνι and τίνος as interrogative rather than indefinite

[50] indeed, since knowledge of things without matter is identical to its object (Λ9 1075a3-5), wisdom must be this separate good-itself, and Aristotle refers to the ἀρχή here as "wisdom and the most honorable knowledge" (Λ10 1075b20-21: there is no other way to take this line, see Ross' struggles ad loc.)

(1075b20-23). (It is sometimes suggested that Aristotle thought that God was the form of the outermost heaven, but apart from these impossibilities--and Aristotle has spent a great deal of effort arguing that there are no separate immaterial forms of natural things--the heavens do not have substantial matter-form composition at all: they do not have substantial matter but only ὕλη τοπική, since otherwise they would have a potentiality for corruption, Λ2 1069b24-6, cp. H1 1042a32-b6, H4 1044b7-8.) But, perhaps surprisingly, Aristotle is willing to allow that the ἀρχή is an efficient cause: criticizing the inadequacy of Anaxagoras' account, he says "Anaxagoras [makes] the good an ἀρχή as mover, for νοῦς moves [i.e. is a moving cause]; but it moves for the sake of something, and this will be something else [sc. and Anaxagoras has failed to explain this end, so that he is not really making use of νοῦς, but only of an arbitrary moving power], except as we say: for the art of medicine is in a way [identical with] health" (1075b8-10). So on Aristotle's own view, νοῦς, which is knowledge of the good, is an efficient cause, while the good itself is a final cause, but νοῦς and the good it knows are identical:[51] so the ἀρχή is both a final and an efficient cause, and a single science of wisdom is knowledge both of a final and of an efficient cause, since these causes coincide. Aristotle is here echoing the last lines of his discussion of the first aporia in B2: "[we think we have knowledge] about comings-to-be and actions and every kind of change when we know the ἀρχὴ κινήσεως: and this is different and opposite [ἀντικείμενον] to the τέλος, so that it would seem to belong to different sciences to consider each of these causes" (996b22-6). These lines seem to be begging for the answer that, just because the efficient and final causes are opposites, there is one science of them both;[52] but instead Aristotle answers that because the efficient and final causes are in some way identical, there is a single science of them both. In the case of physical knowledge, e.g. the knowledge of the soul as the cause of the living body, these causes will also be identical with the formal cause, and correlative with the material cause, so that physics will be a science of all four kinds of cause; wisdom is knowledge of a different kind of final cause, which is also a kind of efficient cause, but is not a formal cause and is not opposite to a material cause, so that wisdom is knowledge of the efficient and final causes alone.[53]

Curiously, it seems never to have been suggested in print that these texts of Metaphysics Λ are Aristotle's intended answer to the first aporia, although their logical connections to it, and verbal echoes of it, are obvious enough. In part the difficulty has arisen from the idea that Λ is an independent treatise and not the promised theological culmination of the Metaphysics;[54] in part it comes from the prejudice that the answer to the first aporia, as to all the "methodological" aporiai, must be "affirmative," i.e. that wisdom must be a single science of this and that, of final, efficient, formal and material causes. But perhaps the most basic obstacle to seeing what Aristotle is doing is that it takes him so long to do it. He answers the other three "methodological" aporiai in the first three chapters of Γ, and it is natural to suppose that he should settle them all at the outset; instead, his answer to the first aporia comes at the very end of the positive argument of the Metaphysics. But the first aporia was by far the most controversial

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[51] for a proper discussion, see Part III: I made just a start on this in "Aristotle and Plato on God as Nous and as the Good"

[52] thus Alexander's proposal to insert a negative, see discussion above

[53] add (here or earlier) a note on St. Thomas on the first aporia: not too bad, but wrong about the formal cause; also his ontological solution doesn't work--he says the material cause isn't included because it isn't a cause of being-as-such but only of mobile being; but the same is true of the efficient and final causes. Thomas himself would deny this--God could create something immobile ex aeterno, and would be its efficient cause--but to that extent Thomas is un-Aristotelian.

[54] for the history see Iα5 above, and for a refutation see IIIα1 and IIIβ1

of the "methodological" aporiai. It is easy enough to say that we should look for causes of the most universal effects, being and its per se attributes, and that the causes of substances will be causes of all beings; but then the problem is to actually find a causal chain that leads up from these universal effects to a single first cause, existing separate from and prior to everything else. The first aporia, which is not at all settled by the general considerations of Γ, asks what kind of causal chain succeeds, and all of the answers have been defended by at least one of the philosophers discussed in Metaphysics A (and Speusippus has defended the claim that none of them succeed). The only way to show that a given kind of chain succeeds, or that a given kind of chain fails, is to actually pursue them, and this is what Aristotle does, starting from the different senses of being in EZHΘ (and from the per se attributes of being in Iota) and pursuing the different kinds of causes that these effects turn out to have. Λ draws the conclusions for which causal chains lead to single separately existing ἀρχαί beyond the changeable things, and which chains, such as those of material or formal causes or of efficient causes within a species, lead merely to a universal type of cause, one only by analogy, existing inseparably from changeable things. It is only at the very end of the investigation, in Λ10, that Aristotle can give the final answers to the questions asking what the ἀρχαί will be, and can show how his answers resolve difficulties that the other philosophers' answers cannot. As Aristotle had said at the beginning of B, not only do the aporiai show us what paths of inquiry we must pursue, we also know that we have reached the goal only by the fact that we have resolved them. Thus the end of Λ takes up questions about the ἀρχαί raised in B, and promises about wisdom made in A, in order to show that the desired end has been reached.