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The Origin of Aristotle's Metaphysical Aporiae

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That the fifteen aporiae¹ to whose exposition Aristotle devotes all of Metaphysics B originate from Platonism is widely accepted. However, the text provides no account of how Aristotle constructed these aporiae, and the exact path by which they developed remains shrouded by our lack of knowledge of Aristotle's contemporaries and of the discussions in Plato's Academy. Book B has been a focal point for various, conflicting accounts of Aristotle's development, for scholars assume that the aporiae presented here are problems that troubled Aristotle and remained unsolved when he wrote Metaphysics B.² In this paper I shall present an alternative account of the origin of Aristotle's aporiae. Regrettably, my treatment can claim no greater textual authority than other treatments: in all likelihood the details of the origin will always be a matter of speculation. However, it seems to me to be a worthwhile subject for speculation for two reasons. First, most discussions of the aporiae take them to be more or less arbitrary: they express problems that happened to disturb Aristotle at the point in his career when he wrote book B, problems that arise from objections that happened to be raised against Platonism or against Aristotle's own early philosophy, problems that (if G.E.L. Owen is right) ultimately result from the clash of observed facts with the opinions that happened to be held in common by a particular linguistic community.³ But Aristotle regards aporiae as intrinsic

1. Aristotle lists the aporiae in B 1, and he discusses each in detail in B 2-6. K 1-2 contain a briefer exposition. The order and number of aporiae differ slightly in the three presentations. My numbering follows B 2-6, the fullest discussion. The fourth and fifth aporiae of B 2-6 appear in B 1 as the fifth and fourth aporiae, respectively. W.D. Ross, Aristotle's Metaphysics, I (Oxford, 1924), 226, uses the numbering of B 1. He counts fourteen aporiae because he does not number 1002b12-32, a problem he takes as akin to the ninth and fourth (his fifth) aporiae, I, 249. I take it to be a distinct aporia. G. Reale, The Concept of First Philosophy and the Unity of the Metaphysics of Aristotle, ed. and trans. J.R. Catan (Albany, 1979), pp. 66-83, also follows the numbering of B 2-6.

2. W. Jaeger, Aristotle: Fundamentals of the History of his Development, trans. R. Robinson, 2nd ed. (London, 1967), p. 196, claims that most of the aporiae "arise out of the crisis in Plato's doctrine, and consist in efforts to rehabilitate the assertion of supersensible reality." He thinks that the objections disturbed Aristotle because he was still a Platonist when he wrote book B. On the other hand, G.E.L. Owen, "Logic and Metaphysics in Some Earlier Works of Aristotle," in Aristotle and Plato in the Mid-Fourth Century, eds. I. Duering and G.E.L. Owen, (Goeteborg, 1960), p. 178, contends that the aporiae signal Aristotle's return to Platonism. Speaking of the first few aporiae, he claims that the "conclusions of the Analytics reappear in the Metaphysics as problems which must be resolved if any general science of τὸ ὄν is to be possible."

3. "Tithenai ta Phainomena," in Aristotele et les problèmes de méthode, ed. S. Mansion (Louvain, 1961), pp. 83-103. Martha Nussbaum denies that the facts play any role in the generation of the aporiae, "Saving Aristotle's Appearances," in Language and Logos: Studies in Ancient Greek Philosophy Presented to G.E.L. Owen, eds. Malcolm Schofield and Martha Craven Nussbaum (Cambridge, 1983), pp. 267-93. She maintains that they arise only from conflicts in common opinions. Her criticism of Owen is justified, but the consequence of her view is that the aporiae are even more arbitrary. They would depend entirely on the opinions held by the particular community of which Aristotle happened to find himself a part.

constituents of any science, and we would expect the particular metaphysical aporiae of book B to be inherent in the subject matter of the science of metaphysics. That this is so seems to be part of what induces Aristotle to insist (in the opening lines of book B) on the necessity of going through the aporiae for making progress in metaphysics (995a24-25). Part of the reason that contemporary scholars take the aporiae to be subjective and arbitrary is the difficulty of understanding how Aristotle could have thought problems with Platonism and Presocratic philosophy necessary constituents of metaphysics. In providing an alternative, I hope to undercut the motivation for Owen's view and for developmental views.

A second reason for speculating on the origin of the metaphysical aporiae is that it affords us insight into the problems Aristotle presents in book B and addresses elsewhere in the Metaphysics. Aristotle's point that we need to understand the problems before we can grasp the solutions is a truism too little heeded by scholars. The analysis of the origin of the aporiae that I shall propose here throws the Metaphysics into a somewhat unusual light. Thus, even though my interpretation is no less speculative than any other analysis, it has advantages for our understanding of the Metaphysics and of the discipline it treats.

I

The paradigm of the procedure that I think Aristotle uses to generate the aporiae appears in the first book of the Physics. There (A 2, 185a20-b25), he undertakes an assessment of the Eleatic claim that all is one. However, before he can determine its truth, he needs to decide what it could mean. The problem is that one is said in many ways. Aristotle mentions (1) the continuous, (2) the indivisible, and (3) the one in formula as types of one that the Eleatics could have had in mind (b7-9). (Metaphysics Δ 6 and I 1 contain richer descriptions of the things that are called one.) To refute the Eleatic thesis, Aristotle needs to refute each of the three possible interpretations: all is continuous, all is indivisible, and all is one in formula and essence. This turns out to be fairly easy. None of the interpretations makes the claim plausible. After brief arguments against each interpretation (b9-25), the Physics proceeds to consider other accounts of principles.

What is particularly interesting about Aristotle's treatment of the Eleatics is his need to translate their claim about the one into his more refined distinctions of types of one. Once Aristotle has distinguished a plurality of ones, it remains ambiguous for the Eleatics, or anyone else, to speak simply of the one. Aristotle must interpret their claims in terms of his own distinctions. This done, the claim is easily dismissed. We can imagine a slightly different outcome. Suppose that two or more incompatible translations of the

claim had been right, or suppose that all are wrong but we have some independent ground for believing in the truth of the claim. What could we do? We would be at a loss, blocked from progress; we would be in *aporia*. In this paper I shall show how just this sort of difficulty could give rise to many of the *aporiae* of book B.

The metaphysical *aporiae* differ from the critique of the Eleatics in that they are aimed primarily at Platonism. For some reason scholars concerned with Aristotle's criticism of Plato have tended to focus on the arguments against the forms being separate from sensibles. An at least as important strand of Aristotle's attack is his arguments about the unity ascribed to form by Plato and his followers. That Aristotle recognizes unity as a character of Plato's forms is clear: he often describes the Platonic form as a "one over many" (e.g. A 9, 990b6-8, b13-14, 991a1-2). In one passage he claims that the Platonists "provide the forms as the essence of each of the other things, and one as the essence of the forms" (A 7, 988b4-6; 6, 988a10-11). In other words, it is unity that makes the Platonic form be what it is. But one is said in many ways. Which type of one did "Plato" intend to ascribe to the forms? A central and recurring Aristotelian criticism of Plato's position is that Plato ascribes two inconsistent types of unity to form.

This criticism occurs in various places in the Metaphysics and in several different formulations. In the critique of the forms contained in A 9, Aristotle writes of the Platonists,

. . . it is clear that if there is some one itself and this is a principle, one is being said in many ways; for otherwise [what they say] is impossible (992a8-9).

The problem, described earlier in the passage, is that the Platonists speak of the one as a character of a number while also recognizing that the number is composed of units (992a1-9): they make the one both a part and the character of the whole. In other words, the Platonists who spoke of a one itself took it to be both an indivisible part and the character of a whole.

In M 8 Aristotle elaborates on what I take to be the same or nearly the same criticism (1084b2-32). He accuses the Platonists of making one a principle in two ways:

How is one a principle? They say [that it is a principle] because it is not divisible. But both the universal and the particular or element are indivisible. However, [they are indivisible] in different ways, the first in respect of formula, the second in respect of time (1084b13-16).

The idea of a principle that is indivisible in time has troubled commentators,⁴ but the

4. Ross, II, 452, claims that an opposition between indivisibility in formula and in time would be unparalleled in Aristotle. He proposes instead to read the text as saying that the two ones are principles in different ways, the one in definition and the other in time. J. Annas, Aristotle's Metaphysics: Books M and N (Oxford, 1976), p. 183, accepts his reasoning and speaks of an ellipsis in the text. But the passage claims that the Platonists made one the principle because it is indivisible. To speak of the principle as prior

Metaphysics defines continuity as a character of what has a motion that is indivisible in time (Δ 6, 1016a5-6). So Aristotle's point is that the Platonists made the principle one in formula (or universal) and also one by continuity (the concrete unit).⁵ That is to say, the Platonic form is supposed to be one in both ways. The problem is that a single principle seems unable to have these two kinds of unity (b18-20, b32).

Along the same lines is Aristotle's suggestion that the Platonists made the forms both one in number and one in species, thereby ascribing two apparently incompatible types of one to them (Z 14, 1039a26-b6). And this latter is closely connected with Aristotle's accusations that Plato's forms are individuals (Z 15, 1040a8-9) and universals (e.g. 16, 1040b27-30).

[There is no need to raise the standard questions about the accuracy of these criticisms, or the question whether Aristotle refers to the dialogues or to some esoteric Platonic doctrines. As long as our concern is with interpreting Aristotle, we should be content to recognize what he - rightly or wrongly - understood Platonism to be.]

These criticisms of Platonism are constructed along the same lines as Aristotle's criticism of the Eleatics. Aristotle begins from a central Platonic principle, the unity of form, and translates it into his own more refined unity language. He then proceeds to criticize the plurality of different, and in Plato's case, incompatible translations.

My contention is that the aporiae presented to us in book B were the result of a very similar procedure. The dichotomies inherent in these aporiae represent alternative translations of the Platonic principle that form is one. In each case aporia results because two translations are equally well (or equally poorly supported). Form seems to be one in a variety of different and incompatible ways. Yet, interestingly, Aristotle insists on the truth of the Platonic claim. Unless Aristotle is assuming that form must be one, the aporiae are not at all problematic. There seems to be an important kernel of truth to Platonism. Aristotle's problem in book B is to explain where it does not lie; that is, to explain why all attempts to translate the Platonic claim into more refined unity language fail to yield a single translation. It is my aim in this paper to trace a number of the aporiae to this source. I shall also have something to say about the ultimately more important question of why Aristotle accepts the truth of the unity claim.

in time or formula would be irrelevant to this discussion. If the principle is a principle because it is one, then its priority as a principle ought to result from its unity.

5. It might be objected: how can the unit be indivisible in time? But part of the criticism is that the Platonists made numbers concrete; they made them ousiae. Further, Aristotle criticizes them for treating the unit as matter. Other examples such as an acute angle show that the motivation for making a unit the principle is just this indivisibility in time.

II

There is one aporia among the fifteen that is obviously a question about which kind of unity that ought to be ascribed. The ninth aporia (999b24-1000a4) asks whether the principles are one in species or one in number. Since specific unity is, by definition, unity in formula (Δ 6, 1016b31-33), this question amounts to asking which of the two alternative ones mentioned in M 8 most properly belongs to principles. Both are types of unity that Aristotle thinks Plato attributes to his principles, the forms, and there is no doubt from Aristotle's discussion that Plato is the object of his criticism. The details of Aristotle's argument are somewhat technical, but looking at his presentation of the ninth aporia will help us to see that the sixth, seventh and eighth aporiae are closely related and how all turn on the problem of unity.

As I said, the ninth aporia asks whether the principles are one in number or one in species. The discussion contains arguments against either alternative. Against the view that a principle is one in species is the problem that nothing would be one in number (999b25-26). In other words, if the principles were only one in formula, they could not explain why there are things that are numerically one; they could not account for individuals. As an indication of how serious this consequence would be for Platonists, Aristotle notes that not even the one itself or being itself would be numerically one (b26).

A second, less clear consequence of the principles being specifically one is that there would be no knowledge because knowledge requires a "one over many" (b26-27). Aristotle's reasoning here is problematic because the one through which we know the many should be the species; we know many things by grasping the species that they share. Were a principle one in species but not one in number, there should, it would seem, be no obstacle to knowledge. Could Aristotle be claiming that the species must be numerically one in order to be known?⁶ More likely, Aristotle's point here builds on the first consequence: without a principle that is numerically one, there will be nothing that is numerically one nor, consequently, can there be many things. But without a many, there can be no one over many, and so no knowledge.⁷ On this interpretation, the principle is

6. Ross, I, 242, thinks that Aristotle raises only one objection to the principles being one in species, how can there be knowledge of sensibles without something that is numerically one that they share in common. He does not explain why something specifically one would not suffice for knowledge.

7. This seems to be Joseph Owens' interpretation, *The Doctrine of Being in the Aristotelian 'Metaphysics'*, 2nd ed. (Toronto, 1963), p. 246. He thinks that Aristotle denies that the (Platonic) forms are knowable because "scientific knowledge requires a specific unity in singulars." It is inaccurate for Owens to say that principles which were one in species would be Platonic forms; for, as we saw, the Platonic forms have both characters.

a principle of knowledge; but, because it lacks numeric unity, it is unable to be a principle of the existence of individuals.

On the other side, there is Aristotle's argument against the principles being one in number. Suppose that the principles were numerically one. Then how would there be anything else besides the elements? (999b31-33). It would make no sense to speak of two instances of one principle; each thing would be an individual. Further, there could be no composites because the parts would each be numerically one, and the whole could only be a plurality.

In short, the problem with ascribing either type of unity to principles is that neither can account for things that have the other character. It seems that a principle should have both types of unity in order to be the principle of things with both types of unity. Of course, Aristotle could dispense with the whole question by simply denying that a principle must be one. Conversely, the ninth aporia is problematic only because Aristotle does insist that a principle must be one.

The ninth aporia seems to be the result of translating the Platonic idea that form is one into Aristotle's unity language. Since the form is a principle, Plato could be insisting on the unity of form to say that a principle is numerically one or to say that a principle is specifically one. Aristotle's discussion of the ninth aporia shows that neither unity by itself is acceptable. And as they are usually understood, the two types of one are incompatible.

Aristotle's discussion of ninth aporia also indicates how to perform a second translation. He explains,

For to say one in number or individual (καθ' ἑκάστων) makes no difference; for we say one in number just as we say individual, and the universal is over these (999b33-1000a1).

If we follow these equations, we should be able to reformulate the ninth aporia as the problem of whether the principles are individual or universal. This latter is actually one of the aporiae (the fifteenth - 6, 1003a6-17). So translation of claims about one seems to be two step process: first, Aristotle decides which type of unity is at issue and formulates the claim in terms of his own unity determinations; then, he further translates some of these claims into distinctively Aristotelian terms, universal and individual.

This second translation, however, is of a different sort than the first. In general, to speak of something as one in some respect is to indicate a characteristic, while to speak of a thing as a universal or an individual is to indicate its kind. The universal is a "one over many" (Z 13, 1038b11-12; De Intp. 7, 17a39-40), but the "one" in this definition is a formula that all instances of the universal share. So each instance of the universal is also one in formula. Thus, Socrates is one in formula because his essence can be expres-

sed (at least partially) by a single formula, a formula that he happens to share with others. Socrates is, of course, one in number as well. Indeed, whatever is one in number is also one in species (Δ 6, 1016b35-1017a3). In contrast, an individual is never universal. Accordingly, we can translate "one in formula" into "universal" when we are characterizing something that is one in formula but not one in number (in the sense that the presence of matter makes something one in number); such as when we are speaking of the species man. Often we can translate a claim about something that is numerically one into a claim about an individual. But, as we can see, these translations will not always work.⁸

A reflection of the difference between the two types of terms is that the fifteenth aporia turns on a slightly different issue than the ninth. The former argues that if the principles were universal, no ousiae would exist because an ousia is not common, like the universal, but a "this something and one" (1003a7-12). On the other hand, if the principles were individuals, it argues, there would be no knowledge (1003a13-14). In contrast, the ninth aporia mentions the impossibility of knowledge as a consequence not of the principles being numerically one, as we would expect if it were parallel to the fifteenth, but of the principles being one in species. Further, the fifteenth aporia is addressed in M 10 with no reference to the ninth.

The ninth and the fifteen aporiae are, then, different. But they both stem from a common source, the Platonic claim about the unity of form. Both aporiae represent translations of the Platonic assumption into Aristotelian terms.

The ninth aporia presumes that there are only two choices for the translation of "one," one in number and one in species. Are there not other possible translations? Aristotle catalogues a variety of different type of one in Δ 6 and I 1. Are not each of these possibilities for the unity that belongs to a principle? In fact, earlier aporiae do raise other possibilities. However, unlike the ninth which is clearly a problem about the unity of a principle, it is less apparent that the unity of the principle is at issue in the other aporiae. The sixth, seventh, and eighth aporiae all arise from an issue that is similar to that of the ninth, but we need to examine Aristotle's arguments to see this.

This sixth aporia asks whether the principles and elements of a thing are its genera or the constituents into which it is divided, such as the letters into which speech is divided (3, 998a20-25). Against the genera being principles and thus for the material constituents being principles, Aristotle points out that the parts of which a body is constructed are its principles and that we know the nature of a thing like a bed when we know its parts and the way that they are put together (998a24-b3).

8. As we might expect, there are some notable exceptions to the rule that "universal" refers to a kind; e.g. the description of metaphysics as universal because primary (E 1, 1026a29-31).

In support of the other side, that genera are principles, Aristotle notes that we know each thing by its definition and the genera are the principles of definitions (998b4-6). Further, some of those who make one, being, and so forth, principles treat them as genera (b9-11).

These arguments scarcely mention unity, but the assumption that the principle must be one motivates the aporia. Why else should we suppose that the principle is either a material constituent or a generic constituent? Each seems to be a principle because Aristotle assumes that the principle is one and each of these is a kind of one. The material constituent is an element of a body and the genus is an element of a formula. And, as we learn from Aristotle's discussion of element in Δ 3, an element is an indivisible constituent (1014b26-27). While the term belongs most properly to material constituents, it is transferred from them to anything that is one (= simple or indivisible) and small (1014b3-5). For this reason genera are called elements (b9-12). [Also, Aristotle mentions the generic substrate and the material substrate as kinds of one in Δ 6 (1016a17-32).] In short, the elements seem to be principles because, as indivisible constituents, they are one. But there are two kinds of elements, generic and material, and Aristotle provides reasons to think that things with each type of unity are most properly principles. The aporia arises from the attempt to decide which type of unity belongs most properly to principles.

Some indication that this is indeed the origin of this aporia comes from an argument against a principle's being both a genus and a material constituent that Aristotle appends to the arguments of the sixth aporia:

But neither is it possible to describe the principles in both ways. For the formula of the ousia is one; and the definition through the genera will differ from that definition which states the constituents of which it is composed (998b11-14).

This argument may, as Ross thinks,⁹ deny that both genera and material elements could be principles of a thing: were they both principles, two distinct formulae would express the essence. This interpretation assumes that to "describe the principles in both ways" is to ascribe two distinct principles to a thing. It is more plausible to interpret the conclusion of the argument as denying that the same thing could be a principle in both ways. And Aristotle's reasoning readily supports this conclusion: since the definition that states the genus differs from the definition that includes the material elements (and since there is just one definition), the same thing cannot be both a generic constituent and a material element. Further, this latter interpretation of the argument is most pertinent here because, as we saw in the discussion of M 8, the Platonists apparently try to make

9. I, 233.

the forms both genera and material constituents. Thus, the point of this argument is the same as the argument of M 8: the same thing cannot be a principle in both ways as the Platonists thought.

So understood, this last argument completes the sixth aporia. Aristotle advances arguments for the principles having the unity of a generic constituent and also for the principles having the unity of a material element, but the principles cannot have both types of unity.

Both genera and material constituents are one as elements. They are what M 8 refers to as "indivisible in respect of the particular" (1084b14-15). This type of unity is the most obvious of Aristotle's various ones. But the discussion of the aporia suggests that the similarity of generic and material elements masks a greater difference, that between a formula and a composite. The question raised in the sixth aporia is thus another formulation of the problem of the ninth aporia. Where the ninth asks about unity in formula or number, the sixth asks about unity in generic or material element. At issue in both is whether the unity possessed by a principle is a unity that can be found in a composite or a unity of a formula. All of these ones are interpretations of the unity that Plato ascribes to principles. Thus, the sixth aporia also arises from an attempt to translate a Platonic claim into Aristotle's more refined unity language.

The seventh aporia examines different types of unity in formula. The genus is one in formula because it is an indivisible element of a formula. Aristotle also applies the expression "one in formula" to what has an indivisible formula (Δ 6, 1016a32-35), and it is the latter sense that he has in mind in the ninth aporia. Species and many genera each have a single formula; the highest genera have no formula. Which type of unity in formula ought to belong to principles? The seventh aporia raises what I take to be an equivalent question. It asks: are the principles the highest or lowest genera? (998b14-16). This question is only an aporia if, as Aristotle assumes here, "the genera are principles most of all" (998b14). That is, the seventh aporia assumes at least a partial answer to the sixth aporia. Only the genera are still under consideration. The ostensible problem is whether the most universal genus is the principle or the genus that is predicated directly of individuals, the species.

Part of Aristotle's support for denying that the highest genera are principles is the argument that neither being nor one can be genera. The problem is that because they belong to everything, nothing can stand outside of them and differentiate them. (A genus cannot belong to its differentia.) Hence, they cannot be genera (998b22-27). If being and one are not genera, then they also cannot be principles if the genera are principles (b27-28).

A second argument goes as follows: If what is most universal is not a principle, the

genera that are principles could only be what are less universal. But then there would be an indefinite number of principles (since there are an indefinite number of genera) (998b28-31).

In the two foregoing arguments against the highest genera being principles, Aristotle does not explicitly say that the principle must be one, but this assumption makes the arguments more intelligible. If we agree that a principle must be one, then we have good reason to think that one or being should be the highest principle. Each seems to be a single principle that stands over all things. Likewise, the discovery that the higher genera are an indefinite plurality is clearly an objection to their being principles if we assume that the principle must be one.

Aristotle is explicit about the unity assumption in his third argument against higher genera being principles. He reasons:

But if one is more of the nature of a principle, and the indivisible is one, . . . , the last predicate would be more one (999a1-5).

The lowest genus, i.e. the species, seems to be more one and thus more of a principle than other genera, for it alone cannot be divided into other genera. Since unity is a criterion of principles, the lowest genus has more of a claim to be called a principle.

In support of the higher genera being principles, Aristotle claims that they seem to possess another character of principles to a greater degree than the lower genera: they are more separable from individuals¹⁰ than the lower genera (999a17-23). As it is formulated in book B, the seventh aporia turns on whether unity or apartness is a more important criterion of a principle. The source of the aporia is the assumption that a principle should have both characteristics along with the realization that each seems to belong where the other is absent. The higher genera are more apart from individuals; the lower genera are more one.

It is obvious that the issue in this aporia is how the principles can be one, but unity plays a role in both alternatives. Apartness is closely tied to unity here and throughout the Metaphysics. To be apart is to be independent. Something that depends on another thing is less one than what is independent. Clearly, what is one is apart or separate and what is apart or separate is more one than what is not apart. This is why the higher genera seem to be more apart than the lower genera: they are more universal (999a21-22). Each genus is a "one over many"; the higher genera are more one, and so more apart. What is farthest from particulars seems to be most one. What could be more one than what is common to all, the one itself and its twin, being itself? Thus, if the unity

10. Here and in the discussion of the next aporia Aristotle usually expresses this idea with the with the preposition $\pi\alpha\rho\alpha$. At 999a19 he uses a form of the verb separate ($\chi\omega\rho\iota\zeta\omega$) equivalently. I shall use "apart" and "separate" indifferently in this discussion.

that belongs to a principle is the unity of what is apart, the higher genera would seem to be principles.

The conflict in the seventh aporia is once again the problem of deciding which of two types of unity belong most properly to the principles. Is the principle one in being indivisible or is it one because it can exist separately? Again, the aporia arises because there are two inconsistent and seemingly well supported interpretations of the Platonic notion that a principle is one.

The eighth aporia is ostensibly a question about the separation of the principles, but if we look at the reasoning on both sides, we can see that the real issue is still how the principles can be one. Is there anything that exists apart from particulars?, the eighth aporia asks (999a24-b24). A reason to answer yes is that there must be a one that is universal if there is to be knowledge of individuals (999a28-31). In other words, the reason that there ought to be something apart is that the principle of knowledge is one. On the other hand, the insistence that the principle be one also generates an argument against the principles being apart: if there were one ousia apart from the individuals, then everything of which it was the ousia would be one, "for all are one of which the ousia is one" (999b18-23). Here Aristotle assumes that the ousia of a thing is its principle and then points out the absurdity of there being a single ousia for a plurality of things. In short, what looks at first glance like a consideration of the apartness of a principle is really a question about how it can be one. The principle must be one for there to be knowledge; but it cannot be one without everything else of which it is the principle being one. Aristotle's arguments for and against apartness are arguments for and against unity. The unity at issue here is clearly unity in species (or unity in formula). The principle must possess this type of unity to be a principle of knowledge. However, what is one in this way is the universal, and the universal cannot be the ousia of its instances (cf. Z 13, 1038b14-15; 16, 1040b17).¹¹ Like the others, this aporia is also a problem about the unity of principles.

So formulated, the eighth aporia leads directly to the ninth, discussed earlier. While the eighth considers whether or not principles are one in species, the ninth inquires whether they are one in species or one in number. Indeed, aporiae six through nine seem to constitute a carefully constructed sequence. The issue in the sixth is between two types of material unity, elements. Aristotle points out that the genus is not really an element at all, and then asks about the genera in the seventh aporia. Considering (in the

 11. M.J. Woods, "Problems in Metaphysics Z, Chapter 13," in *Aristotle: A Collection of Critical Essays*, ed. J.M.E. Moravcsik (Notre Dame, 1967), pp. 215-238, maintains that the passage from Z 13 does not argue against species being ousiae. The argument from B 4 (999b18-23) under discussion here appears to be identical to that of Z 13, and it clearly does deny that the species is an ousia.

seventh aporia) whether unity or apartness is a more important criterion of principles leads Aristotle to examine (in the eighth aporia) whether the criterion of apartness can be met at all. As we saw, the question of whether the principles can be apart turns on the question of whether they can be one in species. Thus, the ninth aporia merely makes explicit the issue before us since the sixth aporia, are the principles one in species or one in number?

By this point there should be no question that the assumption that a principle is one plays a prominent role in aporiae six through nine. Aristotle refers to this assumption explicitly. My contention that this assumption is the source of the aporiae draws support from the insight that it provides into the details of the arguments of particular aporiae and from the organization of these aporiae into a coherent sequence that it suggests.

Like aporiae six-nine, the tenth through the fifteenth aporiae are also concerned with principles. But Aristotle's interest here is specifically the first principles. Three of these aporiae inquire about the first principles posited by other philosophers: being and one (aporia 11), mathematical (aporia 12), and forms (aporia 13). (These principles are all posited by Platonists, among others.) The reason for thinking each of these is the first principle is that each is one. Aristotle's argument in favor of the one itself being the first principle is that without it no universal would be separate nor would any number be separate (1001a19-27). Stated positively, this amounts to saying that the one itself is the principle of universals and of number. Since it can have these functions only by virtue of its unity, it must be through its unity that the one itself has a claim to be the first principle. Part of the motivation for thinking that mathematical are the first principles is that they are the least constituent parts of bodies without which the bodies could not be (1002a6-8). The body is less of a first principle than the plane, and the line less of a principle than the point (1002a4-6). In other words, the mathematical also seem to be principles because they are one, and those mathematical that are most indivisible are the highest principles. Finally, Aristotle claims that the existence of the forms is supported by the need for a unity possessed by a plurality (6, 1002b23-25, 30-32). There is, then, some reason for thinking that other philosophers are right to posit these three as first principles because they are each one. On the other hand, in each case there are problems with ascribing the pertinent type of unity to the first principle. As I mentioned earlier, the final aporia, the question whether the principles are universal or individual, arises from a further translation of two types of one, unity in species and unity in number. This final aporia also assumes that the principle must be one in some way.

The tenth aporia also depends on questions about unity. It asks whether changing and unchanging things have the same principles. The problem here is whether these principles of changing and unchanging things are one or many in genus, though this fact is

not really clear from the discussion the aporia receives in book B.

Of the aporiae about principles, only the fourteenth does not directly involve a problem about unity. It asks whether the principles are potential or actual. These latter are peculiarly Aristotelian terms, and it would not be surprising if they have little or no relation to unity. The issue, as it is formulated in book B, does not depend on a problem of unity. However, when Aristotle discusses the actuality of the principles in book Z, he does, in fact, connect the topic with a problem about unity (Z 13, 1039a4-6); but there is no need to go into that analysis here.

In sum, it should now be clear that most of the aporiae about principles, aporiae six through fifteen, concern the unity of principles. The issue in the sixth through ninth aporiae is what sort of unity the principle has, and the issue in the aporiae that follow is often whether something with a particular sort of unity ought to be called the first principle. Aporiae six through nine could arise directly from the interpretation of the Platonic claim that form is one. Many of the other aporiae from this group also concern the kind of unity possessed by principles posited by Platonists.

III

The first five aporiae fall into a different group. The first four of these clearly follow the same pattern: they all ask whether one or many sciences treat a particular topic. Since they also assume that one science treats one genus, they all turn on the question of whether the topic in question belongs to a single genus. Thus, in the case of the first aporia, the problem of whether there is one or many sciences of the causes is the question of how the causes can be treated by one science given that they do not fall under a single genus. Although Aristotle does not say so, the one science must be metaphysics. As the most universal science, metaphysics should include within its scope just the topics that are mentioned in the first four aporiae: (1) all the causes, (2) all the principles of demonstration, (3) all the ousiae, and (4) all the per se attributes of ousiae. How, though, can metaphysics treat these topics if they do not fall under one genus? And how could the topics fall under one genus without the consequence being the existence of only a single science? The issue is just what sort of unity the subject matter of metaphysics possesses. It cannot have the unity of a strict genus, and yet it must have if it is to be a science.

The fifth aporia is slightly different, but it makes the same assumptions as the first four. While the first four ask whether there are one or many sciences of a topic and consider whether the topic can lie in one genus, the fifth asks whether there are one or many genera of ousiae (997a35-b3), and it considers whether there is a distinct science of mathematical intermediates. This is indirectly a question about the subject matter of

metaphysics: the Platonists posit the existence of intermediates that are known by mathematics in part for the sake of affirming that the forms alone are the subject of the highest knowledge.

In sum, the problem of the first group of aporiae is what sort of unity the subject matter of metaphysics possesses. This is usually a problem about how the topics the science should deal with can fall under the scope of one science. Except for the fifth aporia, the topics mentioned here are all peculiar to Aristotelian thought. Nevertheless, the aporiae have their source in the same Platonic claim that was such a rich source of the second group of aporiae, the claim that form is one. For Plato the forms are not only the principles of a science, they are the sole content of knowledge. Only the forms can be known. That is to say, the principles of a Platonic science and its subject matter are identical. The Platonic assertion about the unity of the form is, accordingly, also an assertion about the unity of the subject matter of a science. Aristotelian sciences are much richer: they not only know the principles, but are able to use them to demonstrate attributes belonging to the subject genus. The possibility of drawing inferences from principles through syllogisms enables Aristotle to distinguish the unity of the subject matter from the unity of the principles. The Platonic assertion that form is one, thus falls immediately into two assertions: the subject matter of metaphysics is one, and the principles of this science are one. Aristotle agrees that both must be one, but there is no reason that they need to be one in the same way. The two groups of aporiae arise when Aristotle examines the unity possessed by each.

There are, of course, other themes that run through the discussion of the aporiae, but by and large, it is Plato's claim that form is one that provides the basis of the aporiae. There are a variety of different interpretations of this claim. The aporiae arise because there is some reason to think that all of the interpretations are true.

It is the translation of Plato's claim into Aristotle's more refined terminology that generates the aporiae, but there is no reason to think that such a translation is necessarily unfair to Plato. After all, once we recognize many different ones, assertions about an unspecified unity need to be translated. Moreover, if Plato really did hold the views that Aristotle apparently ascribes to him, the very identifications that so trouble Aristotle would be just what Plato might advance to support his view. The identification of subject matter and principles make Platonic sciences neat and clean; if the forms are both principles of definitions and constituents of bodies, all the better.

IV

As an account of the means by which Aristotle arrived at the fifteen aporiae that constitute Metaphysics B the foregoing is at least as plausible as anything offered so far.

It has the advantage of tracing the aporiae to a Platonic assumption and thus of avoiding appeals to stages of Aristotle's development, common opinion, or the linguistic community in which Aristotle found himself. There is no reason to think that the aporiae express philosophical problems that are in any way personal or subjective. They arise from the attempt to make sense of Plato's assumption. The organization of the aporiae and the similarity of some of them to criticisms of Platonism suggest that Aristotle has a solution ready at hand.

The really interesting question that my account raises is why Aristotle should hold so tenaciously to the Platonic assumption about unity. The easy way out of the whole business would seem to be a denial that form is really one. He simply dismisses the Eleatic thesis. Why not dismiss Plato the same way?

The answer to this question, I suggest, is that problems that involve unity really are intrinsic to metaphysics, as Aristotle conceives it. There are indications of the importance of unity throughout book B; such as, the claims that one is more the nature of a principle (999a1-2) and that unity is a principle of knowledge (999a28-29). However, like so much else in the Metaphysics, really understanding what Aristotle means requires some reflection. Aristotle's science of metaphysics is the science of first principles and highest causes. Clearly, the highest cause cannot be composed of parts; for the parts would then be prior to it, and it would no longer be the highest cause. The highest cause must be incomposite: it must be one. The problem of finding the unity possessed by the highest principle is inherent in the task of metaphysics. Similarly, the question of the unity of the subject matter of metaphysics is also intrinsic to any metaphysics. As a science or discipline, metaphysics is one among others. Insofar as it is the highest science, it must somehow include the subject matter of the other sciences while still allowing a sphere for those other disciplines. Just what sort of unity could all things possess that would allow them to be known by a single science (metaphysics) and also be treated by other particular sciences? In sum, the problem of a science of highest principles is inherently a problem about the unity of the science and the unity of the principles.

Once we pose the problem in these terms, the position that Aristotle ascribes to Plato becomes a coherent and pertinent alternative. Plato's assertion that form is one amounts to the claim that the form is both the principle and the subject matter of knowledge. As I said, the simplicity and neatness of this view is a point in its favor. Whether or not it was actually held by Plato it is clearly a view that Aristotle must consider, and he must do so by examining distinctions that Plato collapses. Given the connection of problems of unity with metaphysics, the aporiae presented in book B do not express problems that happened to disturb Aristotle at some point in his career. Nor do they simply reflect objections raised to Platonism or to Aristotle's own earlier philosophy.

Even if Aristotle were entirely ignorant of Plato's works, the Metaphysics would still need to address the unity problems raised in the aporiae. They are problems that anyone who gives serious thought to the character of metaphysics as a discipline must confront.

To conclude, the aporiae originate when Aristotle attempts to make sense of a Platonic claim about the unity of form by translating it into his own more refined unity language. From a larger perspective, the problems about unity that we find in book B are problems inherent in a metaphysics of the sort Aristotle conceives.