Aristotle's *Metaphysics* defends a number of theses about oneness ([to hen]). For interpreting the *Metaphysics*’ positive henology, two such theses are especially important: (1) to hen and being ([to on]) are equally general and so intimately connected that there can be no science of the former which isn't also a science of the latter, and (2) to hen is the foundation ([archê]) of number qua number.

Aristotle decisively commits himself to both (1) and (2). The central goal of this article is to improve our understanding of what the *Metaphysics*’ endorsement of their conjunction amounts to. To this end we explore three manners of being one which enter into Aristotle’s *Metaphysics*: I call them unity, uniqueness, and unit-hood. On the view the article defends, it’s unity (and not uniqueness) that’s at issue in Aristotle’s endorsement of (1) and unit-hood (and not uniqueness) that’s at issue in his endorsement of (2). The *Metaphysics*’ positive henology as whole, I suggest, is best interpreted by positing a theory-internal distinction between unity, uniqueness, and unit-hood.

**Keywords:** Aristotle; *Metaphysics*; oneness; unity; number; being

1 A Distinction

Oneness is manifold. Words for ‘one’, at any rate, and their derivatives are equivocal across many languages. And there have been a number of different things philosophers have called oneness. Here are three:

(a) unity (to be united, to hang together as a unified whole)
(b) uniqueness (to be countable as ‘one’, to be a single _ _ _)
(c) unit-hood (to be a unit of measure, a standard of measurement)

I add some possible English uses of ‘one’ exemplifying (a)–(c) respectively:

(a’) Today, Berlin is one.
(b’) Unlike Sparta, Syracuse had only one king.
(c’) Ancient construction records consistently specify the length as ‘four long’. But we don’t know how long their one was.

Linguistically, the use of ‘one’ in (c’) is atypical. To refer to a standard of measurement English prefers a term of Latinate rather than Germanic origin: ‘unit’ instead of ‘one’. But other languages more happily employ...
a single term (or single root) to express each of (a)–(c). Thus we find in Aristotle the following uses of the
Greek word hen:\(^2\)

(a\(^*\)) A plot isn’t unified [hen] simply because it’s about one person...
(b\(^*\)) Next to consider is whether we should reckon there to be one [hen] kind of constitution or
more, and if more: How many? and What are they?...
(c\(^*\)) The unit [hen]...in magnitude is a finger or foot...in rhythms the unit is a beat or syllable...in
heaviness it’s some definite weight...

Prima facie, (a)–(c) look to present distinct notions. You, the reader, are both united and unique; but unlike
the centimeter you are no unit of measure. And if I say that one person wrote the Iliad and Odyssey—‘Homer
was one person’ I might say—I’m evidently not making a claim about any poet’s wholeness or affirming that
a person hangs together.

There are philosophically important questions concerning (a)–(c). Are any of (a)–(c) interestingly con-

nected with being? How do (a)–(c) relate to number? Are any of them real attributes that combine with
objects in the manner of properties? Are there illuminating priority/posteriority relations between (a)–(c)?

What should we make of the shared un- in ‘unity’, ‘unique’, and ‘unit’, and the equivocity of ‘one’-vocabulary
in so many languages?

It will be helpful to have a way of differentiating ‘ones’ in each of the above senses. Using the resources of
English, it’s natural to call a one [hen] in the sense of unity or something unified a unity; a one [hen] in
the sense of uniqueness—something viewed as countably ‘one’, or as single X—we can refer to as a
singularity;

and a one [hen] in the sense of unit-hood, i.e. a unit of measure, I’ll call a unit. To speak about a hen while

withholding precisification we reserve the neutral: one, in such contexts rendering τον [to hen] as oneness or
‘one’, or even the One, depending on the function of the Greek definite article (to) that’s at issue. Note,

finally, that in thus putting to work the everyday metric sense of the English word ‘unit’, we are deviating
from the scholarly convention of reserving ‘unit’ to render monas in philosophical/mathematical contexts.

To avoid confusion, we ourselves render the latter by simply transliterating it: monad.

2 Some Interpretive Questions

In the Platonist philosophical tradition, two basic intuitions about oneness [to hen] look large. The first is
that to hen has some kind of deep connection with being; the second is that to hen has some kind of deep
connection with number. Developing these intuitions—and doing so rather differently than Plato and more
orthodox Platonists—Aristotle’s Metaphysics elaborates and defends the following theses about to hen:

Thesis A. being [to on] and to hen are equally general and so intimately connected that there can
be no science [epistēmē] of the former that isn’t also a science of the latter and its per se attributes

Thesis B. to hen is the foundation [archē] of number [arithmos] qua number

Aristotle decidedly commits himself to both theses. The central goal of this paper is to improve our under-
standing of what his commitment to their conjunction amounts to.

Suppose we use ontological as a label for the notion of one/oneness [to hen] at issue in Aristotle’s
endorsement of Thesis A, and arithmetical for the notion of one/oneness at issue in his endorsement of
Thesis B. We can then ask what, on Aristotle’s view, being one in the ontological sense and being one in the
arithmetical sense each amount to, whether—and to what extent—he views them as distinct, and how—if he
does think them distinct—these varieties of oneness relate to one another.

In the last decades, these questions have not received much sustained attention. But a great many issues
in Aristotle, as well as later Aristotelian thought, seem to be tied up with these questions—not least among
them, questions about the role of hylomorphism in Aristotle’s metaphysical project. Most obviously, our
questions bear on the Aristotelian pedigree of the medieval distinction between ‘transcendental’ and ‘quantitative’
oneness [Ar.: wahda, Lat.: unitas]. Now, this latter distinction has its own complex history of
interpretations and reinterpretations.\(^3\) And in the interest of prejudging as little as possible and guarding
against the conflation of what may turn out to be distinct philosophical issues, I think it safest to here avoid

\(^2\) (a\(^*\)) = Poet. 1451a16, (b\(^*\)) = Pol. 1278b6-8, (c\(^*\)) = Met. 1087b35-37. Unless otherwise noted, translations are always my own.

\(^3\) Among the best resources for this history are Menn (2011) and Aertsen (2012). Much further work in this area, especially in con-
connection with the Islamic tradition, remains to be done.
anachronistic application of such scholastic terminology to Aristotle himself. Thus we speak rather of ‘ontological’ ones/oneness and ‘arithmetical’ ones/oneness in what follows; and we pursue our questions using these labels in the exact interpretive sense specified in the paragraph above.

Now, much of Aristotle’s *Metaphysics* is dialogical and aporetic. As with other topics, its various discussions of oneness are aimed at—and conducted from—a variety of theoretical perspectives and often involve playing off different intuitions about being one against each other. But it turns out to be easy enough to collect from the *Metaphysics*: (a) a critical mass of texts that clearly pertain to Aristotle’s own endorsement of Thesis A (and thus ontological oneness) and (b) a critical mass of texts that clearly pertain to Aristotle’s own endorsement of Thesis B (and thus arithmetical oneness). What we find in this body of texts, I contend, are two quite incompatible accounts of oneness. I contend, moreover, that in the overall henology of the *Metaphysics* these two accounts are best viewed as neither competing nor confused, but as intended to conceptualize two different things that Aristotle himself sees as quite distinct. On the interpretation of the *Metaphysics*’ henology I develop below, ontological oneness in Aristotle is *unity* (and not uniqueness) and arithmetical oneness in Aristotle is *unit-hood* (and not uniqueness). On Aristotle’s own view of them, ontological and arithmetical oneness are quite separate.

This account of Aristotle’s henology is far from uncontroversial. It clashes most strikingly with a common interpretation of the *Metaphysics*’ henology on which Aristotle assimilates ontological to arithmetical oneness and/or effectively identifies the former with the latter. We can call such interpretations Assimilationist, this general line of interpretation Assimilationism about Aristotle’s henology. Now, the foundation of Assimilationism is a trio of *Metaphysics* passages: two from *Met.* Iota 1, one from *Met.* Delta 6. The three passages are traditionally interpreted together in a very tight hermeneutic circle. Thus interpreted, they seem to constitute strong evidence for some kind of Assimilationism and strong evidence against my competing account of Aristotle’s henology. Yet all three, and two of them in particular, are attested in remarkably different versions in the Byzantine manuscript tradition—our best evidence for what Aristotle actually wrote. This has not, I think, been taken seriously enough; but fully engaging with Assimilationism will require that we do so. For operative among the (alternately reinforced and reinforcing) assumptions in the hermeneutic circle that’s given rise to Assimilationism are some highly questionable text-critical judgements about these passages. Thinking through what, on the final analysis, the three passages do or do not tell us about Aristotle’s henology will involve consideration of some thorny text-critical and text-genealogical issues. This work will occupy us in the paper’s penultimate section: Section 6. Prerequisite for serious engagement with the text-critical and interpretative questions addressed by Section 6 is philosophical consideration of much else in the *Metaphysics*’ henology. Among other things, the more purely philosophical work of the five preceding sections is intended to provide such preparation.

The section that succeeds this one (Section 3 below) offers a synoptic account of ontological oneness in Aristotle, drawing centrally on *Met.* Gamma 2 and the closely connected analysis of unity in *Met.* A.6 1015b16-1016b17. Section 4 turns to Aristotle’s positive conception of number *(arithmos)*, developing an interpretation of arithmetical oneness and the sense in which Aristotle himself thinks it true to say that *hen* is the foundation of number. Naturally, our central focus there is *Met.* Iota 1 1052b20-1053b8 and N.1 1087b33-1088a14. Building on the previous sections’ work, Section 5 sets out a series of arguments concerning the

---

4 This is especially true of *Met.* Iota 2. As I plan to discuss in a subsequent publication, I take the argument of that chapter to deploy ideas about both ontological and arithmetical oneness in quick succession, and to do so without argumentatively conflating them.

5 Avicenna—e.g. in his Epitome to Aristotle’s *Metaphysics* (English translation in Arnzen 2010) and *Long Commentary on Aristotle’s Metaphysics* (yet to be translated in English; Arabic in Bouyges 1952)—criticizes Avicenna for assimilating (what I’ve called) ontological oneness to (what I’ve called) arithmetical oneness. This doesn’t get Avicenna entirely wrong, but Avicenna’s considered view is far more complicated—cf. I.5, III.3–5, V.1–2 in the *Metaphysics* of his encyclopedic work the Healing (English translation with facing Arabic in Marmura 2005). More recent friends to Assimilationism about Aristotle’s henology are W. D. Ross in his magisterial commentary on the *Metaphysics* and Stephen Menn in his circulating work-in-progress *The Aim and Argument of Aristotle’s Metaphysics*. Laura Castelli’s 2010 monograph *Problems and Paradigms of Unity: Aristotle’s Accounts of The One* develops a reading of Aristotle’s henology that isn’t exactly Assimilationist in my sense of term (which I elaborate on further in Section 6 below). But in a comparative reading of *Met.* Z and Iota, Castelli’s monograph does conceptualize a dimension of priority on which:

---

6 NB in particular the tight correspondence of *Met.* Gamma 2 1004a25-31 and *Met.* A.6 1016b6-9.
distinctness of arithmetical and ontological oneness in Aristotle’s thought (and the distinctness of both from uniqueness as Aristotle conceives of it). Finally, Section 6 turns to the three passages that motivate Assimilationism and will prima facie seem to pose a serious challenge—indeed, the main challenge—to my interpretation of Aristotle’s henology: *Met.* Iota 1 1052b16-19, *Met.* Iota 1 1053b4-6, and *Met.* Δ.6 1016b17-18. Attending to the relevant text-critical problems, Section 6 defends interpretations of the three passages on which they can be seen to cohere well with both my account of Aristotle’s henology and their own immediate context. Section 7 is a conclusion.

3 Ontological Oneness: Unity

Aristotle’s *Metaphysics* develops a conception of wisdom [σοφία] as an *ἐπιστήμη* as the mastery of a certain perfected science. So conceived, wisdom will be like other *ἐπιστήμαι* in being a kind of impeccable systematic understanding of a subject-matter—a form of perfected knowledge whose characteristic expression is to give the definitive accounts of (subject-matter specific) inexorable phenomena [αναγκαία] in terms of of their causes [αἰτία]. But in contrast to other *ἐπιστήμαι*, the *Metaphysics* argues that wisdom will be an especially profound *ἐπιστήμη* due to the abstraction and extreme universality of its subject-matter. For Aristotle the *ἐπιστήμη* most deserving of the name *σοφία* will have to be a ‘big picture’ *ἐπιστήμη* of reality as a whole. In particular, his *Metaphysics* argues that true *σοφία* would be an *ἐπιστήμη* that accounts for the *most general of all truths* by explaining them on the basis of their most primitive causes and ultimate foundations [αρχαί].

To attain this *ἐπιστήμη* of *σοφία* is the ultimate goal of the investigative discipline that Aristotle calls First Philosophy [πρῶτη φιλοσοφία]. The ultimate goal of Aristotle’s *Metaphysics* is not, of course, to propound any such *σοφία*—Aristotle doesn’t claim to have it—but simply to make progress in First Philosophy (so conceived).

In *Met.* Γ.1 Aristotle famously teaches that the maximally general truths that First Philosophy takes as explananda concern being as such. They are, that is, inexorable truths concerning what holds of (all or certain types of) beings simply insofar as they manifest their associated ways of being. But as Γ.1–2 develops this line of thought, we soon learn that this science of being qua being is (somehow) also a science of one-ness qua oneness and what pertains to it per se (1003b33-6, 1004b5-8). For according to Aristotle, there is a type of oneness [*τὸ ἡν*] that is as universal a phenomenon as being is—a type of oneness that’s (non-accidentally) convertible with being. (Aristotle calls two phenomena convertible iff every case of the first is a case of the second and vice versa). *Met.* Γ.2 argues that being and this type of oneness are in some sense ‘the same single nature’ with the result that this type of oneness is ‘nothing different over-and-above being’ (1003b22-3, 1003b31). The upshot of this is supposed to be that the envisioned *ἐπιστήμη* of wisdom must be thematically concerned with the explication of this particular phenomenon of oneness and must account for its per se attributes (= whatever holds of things insofar as things somehow manifest this type of oneness).

At issue in these remarks is *ontological oneness* in the sense of Section 2. And what Aristotle has in mind here clearly isn’t uniqueness: i.e. being one in the sense of countable as ‘one’. For if it were then the mathematical *ἐπιστήμη* of number theory [ἀριθμητική] would (by Aristotle’s lights) be part of the metaphysical *ἐπιστήμη* that First Philosophy seeks—and according to Aristotle it most certainly isn’t. Nor can ontological oneness be identified with self-sameness. For, in line with other texts, *Met.* Γ.2 affirms the priority of ontological oneness to sameness: the latter being among the ‘per se attributes’ pertaining to the former (Γ.2 1004b5-8; cf. Δ.9 1018a7-9). No, for Aristotle ontological oneness is *unity*.7

Now, according to Aristotle being and ontological oneness—i.e being and unity—are not just convertible but convertible *per se*.8 On this view, there can be no generation of a being that isn’t as such the generation

---

7 At issue here is the sense of *τὸ ἡν* relative to which Aristotle himself wants to affirm what he says about ontological oneness in *Met.* Γ.2. On the final analysis, I think it pretty clear that ontological oneness for Aristotle is unity. And to bring out the attractive-ness of this interpretation this section develops it in connection with Γ.2, and in some detail. That in the context of Aristotle’s other views ontological oneness turns out to be unity seems to me quite hard to deny. All things considered, I have a difficult time seeing what else ontological oneness could possibly be given the various things Γ.2 says about it. Section 5 below will rehearse some further arguments for why ontological oneness in Aristotle cannot be plausibly identified with uniqueness, arithmetical one-ness, or unit-hood. While they all deploy ideas introduced in Sections 3–4, the majority of these arguments do not rest on any interpretive identification of ontological oneness with unity. Some strong textual evidence for thinking that ontological oneness in Γ is unity has already been noted: I mean the tight connection between Γ.2 1004a25-31 and Δ.6 1016b6-9 (for Δ.6 1015b16-1016b17 is manifestly about Aristotle). Aristotle’s ideas about the relationship between unity and sameness are complex. I won’t be discussing them in any detail below, but hope to treat them in a later publication. I’ll mention here one further reason for denying that ontological unity for Aristotle is self-sameness: *Met.* 2.17 1041a14-20 effectively distinguishes *τὸ ἡν* as unity from *τὸ ἡν* as self-sameness on the grounds that there can be causal inquiry into the former but no causal inquiry into the latter.

8 Regarding the theses about being and ontological oneness rehearsed in this and the following paragraph see esp.: *Met.* Γ.2 1003b22-34 and Iota 2 1054a13-19.
of a unity nor any generation of a unity that isn’t as such the generation of a being; and mutatis mutandis for destruction. Every conception of a being is a conception of a unity, every conception of a unity a conception of a being. And by necessity: every being is a unity and every unity is a being.

It is important to appreciate that in assenting to such claims, Aristotle isn’t conceiving of unity and being as determinate characteristics or uniform natures in which all things share. For Aristotle it manifest that there are many different ways to be a being and many different ways to be unified. And so ‘being’ and ‘unity’ in the paragraph above need to be interpreted such that: X ‘is a being’ means X exhibits some way of being, and X ‘is a unity’ means X exhibits some way of being unified. In such contexts, Aristotle will think of being and unity as not subjects [hupokeimena] but maximally general ‘predicables’ [kategoron mata]—albeit predicables of a very peculiar sort. They will not, he thinks, fall into any of the categories [kategorai]: calling X a unity or being won’t express what X is, or a quality of X, or quantity of X, or... Nor do being and unity, thus construed, transcend categories in the manner that per accidents compounds like teenager do; nor are they at all property-like since, pace Avicenna (and perhaps Plato), Aristotle thinks it makes no sense to posit intrinsically being-less and unity-less subjects that underlie being and unity.

So, according to Aristotle there are different ways to be a being (something that is), and different ways to be a unity (something that’s unified). And to say that there are different ways to be X is not simply to say that there are different kinds of X with impressively different essences. Though I’m relabeling it, the distinction I have in mind is Aristotle’s own. To see it contrast (i) the manner in which an isosceles triangle and a scalene triangle are both triangles, with (ii) the manner in which (the horse) Rocinante and a photo of Rocinante are both animals. The former two items are different kinds of triangle, but they are not triangles in different ways because (as Aristotle would put it) what it is for each of them to be a triangle is the same. In contrast, while the sentence ‘This is an animal’ can be truly said of both Rocinante and his photograph, the horse and the photo aren’t different kinds of animal. These two (in contrast to Rocinante and Xanthippe) are animals in different ways since what it is for Rocinante to be an animal differs from what it is for the photo to be an animal.10

A more illuminating example of this different ways to be X phenomenon, Met. Γ.2 invites us consider the term ‘healthy’ as deployed in medicine. (Here, and in what follows, ‘medicine’ means human medicine). Now, among the things that doctors know to be healthy there are humans, foods, complexions, lungs, and exercise regimens. But what it is for a food to be healthy (=for its consumption to promote health) differs from what it is for a human to be healthy; what it is for a complexion to be healthy (=for it to indicate health) differs from both, and what it is for a lung (or exercise regimen) to be healthy differs still. Quite evidently, there isn’t some single property of healthiness that all such healthy things share. What we have here is rather a plurality of different ways to be healthy. And this case is particularly interesting to Aristotle because if we collect together all such ways of being healthy with which medicine is concerned we’ll have network of distinct properties linked together not only by our language but also in extra-linguistic reality. For, as he interprets the case, the complex disposition whose possession constitutes human health enters into the real definitions of all other such ways to be healthy; and they, in turn, are all (in one manner or another) ‘of or related to [human] health’ [pros hugieian].

One of the central proposals of the Metaphysics is that what medicine calls ‘healthy’, in taking as its subject-matter everything that’s healthy, is structurally analogous to what First Philosophy calls ‘being’ in taking as its subject-matter everything that is a being (i.e. everything that is). For, Aristotle thinks it difficult to maintain that (e.g.) humans, deaths, numbers, and pleasures all exist (=are beings) in the same way. And there a great many aporiai that he takes to be best solved using well-motivated distinctions between different ways to be a being. But as with the various ways to be healthy, Aristotle further contends that there’s one particular way to be a being that’s fundamental and definitionally prior to the rest: the way of being enjoyed by substantial-beings [ousia]. More precisely, if X is an ousia then what it is for X to be something that is is for X to be an ousia; if X isn’t an ousia, it isn’t. In the latter case what it is for X to be something that is can differ for different values of X—but it will always involve some sort of relationship to ousia. Reasonably, Aristotle thinks that it’s by studying the nature and causes of human health that the field of medicine

---

9 NB that when Aristotle says that being and unity are merely ‘predicables’ [kategoron mata]—in, e.g., Met. Iota 2 1053b16-21—he isn’t saying they’re expressions of a language or that they’re intra mental concepts.

10 With the paragraph above cf. Aristotle’s analysis of ‘things said in many ways’ [legomena pollachis], especially: Cat. 1a1ff. and Met. Γ.4 1006a31ff. (We’ll have more to say about legomena pollachis later on). I’m not, of course, the first to use this terminology of ways to be X vs. kinds of X in connection with Aristotle. To cite just one example, Frede’s classic ‘The Unity of General and Special Metaphysics: Aristotle’s Conception of Metaphysics’ uses this terminology in connection with more-or-less the same distinction I do (Frede 1987: pg. 85ff.).
best advances its understanding of healthy diets, healthy complexions, healthy respirations, etc. And for analogous reasons, he thinks that First Philosophy will best advance its understanding of being in general by privileging foundational studies of the primitive causes and foundations of ousia.

Now, as with being Aristotle thinks that adequate sensitivity to the diversity of real should compel us to admit that there are many ways to be a unity. To see the plausibility of this line, one might note that often (if not always) unity is a matter of some parts constituting a whole. But consider (e.g.) this human, this making of a brisket, this episode of pleasure, this number, the plot of this tragedy, water (the natural kind), and color (the universal). And consider what it is for each of these to be unified—what it is for each of them to have its parts constitute the whole it is. Intuitively, these items would appear to have parts in some strikingly different ways. But then why think they constitute wholes in the same way? Or more concretely, compare the unity of this drop of water with the unity of all that water (cf. Met. Δ.26). The unity of the drop will be destroyed if we divide its left side from its right with a barrier, but there is no positional rearrangement [metathesis] of all that water that destroys its unity. She who insists that all unities are unified in the same way will need another way to resolve this and great many other aporiai. But Aristotle responds by distinguishing between two ways of being unified. For the water drop to be unified, he proposes, is for its portions to be continuous. This is why the drop will survive any positional rearrangement [metathesis] that preserves corporeal continuity and none which do not. However, he will add, it's in a different way that all that water is a unity: for it to be unified is not for its portions to be continuous but simply for its portion to exist as what they essentially are (i.e. water). Here as elsewhere, Aristotle is attracted to well-motivated distinctions between ways of being unified where they prove readily intelligible and explanatorily powerful.

Aristotle often insists that philosophy respect the radical diversity of the real. And among other things, his division of categories is supposed to capture a dimension of this radical diversity. So it is not surprising, that Aristotle is attracted to the view that there are distinct ways of being unified for items in distinct categories. Met. Γ.2 (esp. 1003b33-34) and Iota 2 (1054a14) strongly suggest what Z.4 (1030b10-11) explicitly states—that, with respect to the categories, unity and being are predicated in equally many ways.

Suppose we call a way of being unified derivative iff some other way of being unified enters into its real definition, and otherwise call it primitive. Aristotle quite evidently thinks some ways of being unified are primitive while the rest are derivative. Having previously proposed that being is structured focally [pros hen] in the manner that healthy is, Met. Γ.2 (1004a25-31) goes on to add that the same holds for unity. The immediate lesson Aristotle draws from this is that First Philosophy must not only distinguish between different ways to be a unity, but also account for ‘how [other ways to be a unity] are formulated in relation to the primitive [way]’ (1004a28-30). Aristotle is sometimes read as holding that there’s exactly one primitive way of being a unity—that which is characteristic of ousia. But Met. Δ.6 actually tries to work out the kind of focal analysis that Met. Γ.2 calls for at 1004a25-31. And from that discussion a somewhat more complex picture emerges (Δ.6 1016b6-9):

Most things are said to be united [hen] because they either do or have or undergo or are related to something else united. But things said to be united in the primitive way are those whose ousia is united—and united either by continuity or by a form or by a definition.

Met. Δ.6 had previously analyzed these three aforementioned ways for X’s ousia to be united as three distinct ways of being undivided [adiaireton]. So, regarding the focal structure of unity, Aristotle’s more considered view would seem to be (1) that every way to be a unity is primitive or derivative, (2) that while there are many derivative ways to be a unity there are several (but perhaps not terribly many) primitive ways, and (3) that the several primitive ways to be a unity are all akin to one another in constituting analogous ways for things’ ousai to be undivided. With respect to this last point, consider (say) the corporeal undividedness that’s the substantial unity of this drop of water and the formal undividedness that’s the substantial unity of The basic idea would be that while these two types of undividedness don’t amount to the same thing—and while neither of these two is definitionally prior to the other—that nonetheless the two types constitute abstract (but non-trivial) analogues with respect to one another. Aristotle’s habitual characterization of being unified as a matter of being internally undivided [adiaireton] might seem to suggest that that he conceives of unity in fundamentally private terms. After all, as Aristotle himself notes, the word ‘undivided’ [adiaireton] is

11 Aristotle doesn’t use the word ‘whole’ [holon] in the way contemporary metaphysicians do. Like other ancient authors he takes ‘X is a whole [holon]’ to imply that X has (proper) parts; and in the Metaphysics he wants to reserve the word holon as a label for a particularly strong variety of unity paradigmatically exhibited by complex ousia.
certainly privative in its linguistic form. But on Aristotle’s considered view, the unity of X’s ousia is always a sort of fulfillment [entelecheia] and always an undividedness that makes X something definite. And on Aristotle’s considered view, it’s not unity but the indefinite manyness to which it’s opposed that’s the privative phenomenon. (More on this in Sections 5–6).

Descendants of Aristotle’s idea that there are different ways to be a unity will be familiar to some readers from its Renaissance in contemporary ‘neo-Aristotelian’ metaphysics. Other features of his account of unity have made much less impact on contemporary debates about part/whole. One in particular warrants special emphasis here. Aristotle thinks that unity comes not only in many varieties but also in degrees: that some things are more unified than others. The thought that being a single thing (countably ‘one’) comes in degrees verges on incoherency. If one counts how many things Obama thought about today, they counted equally—neither is more ‘one’ than the other. But it’s both coherent and prima facie reasonable to contend that any live dog is more unified than the American Defense Department.11

On this kind of basis, Aristotle will insist that a dog’s wholeness constitutes an achievement that not every unity matches. Heaps and collections are not unified to this degree. Aristotle will explain a dog’s high degree of unity by arguing that every (proximate) part of a dog is essentially a part of that dog—that is, dog is prior in definition to all dog parts. In contrast, Aristotle would claim, the parts of a heap are not prior to the whole they compose. Interestingly, Aristotle thinks animals which can be divided into two animals of the same kind (e.g. worms) are less unified than those which cannot (e.g. humans).14 But Aristotle also thinks a human being less unified than an Unmoved Mover who has neither different parts at different times, different parts at different places, or different parts conceivable through different accounts.15

There are further complexities to Aristotle’s theory, and interesting philosophical questions about all of this that I set aside here. Having briefly treated the one that Aristotle takes to be closely connected with being, I turn now to the one(s) that enter into Aristotle’s account of number.

4 Arithmetical Oneness, Number, and Unit-hood
Number, like other mathematical concepts, has a history. Thus it’s often noted that the mathematicians of Greek antiquity have no notion of negative number or irrational number, that (officially at least) they do not even take fractions to be numbers. But to understand Aristotle’s approach to number we must also take seriously the fact that our present concept of natural number is a fairly recent achievement. For the concept of number [arithmos] one finds in both philosophical and non-philosophical texts of Greek antiquity turns out to be remarkably alien to what now seems the intuitive notion of counting number.16

Consider, for instance, the following exchange from Plato’s Theaetetus (204d: trans. in Burnyeat 1990, lightly revised):

It’s from its contrary that to hen is formulated [vegeta] and made manifest [delountan]—the undivided [to adiaireton] from the divided [to diareton]—because that which is plēthos, i.e. the divided, is more [readily] perceptible-by-sensation [aisthēton] than [that which is hen, i.e.] the undivided; it results that to plēthos is prior in logos to the undivided because of sense-perception [aisthēsis].

Prima facie, one might think Aristotle to be saying here that in the pair of contraries (hen-adiaireton, plēthos-diaireton) it’s the former that’s privative and the latter that’s positive. But this would make Aristotle a radical revisionist with respect to the traditional sustoicheia of contraries in manner that looks to be inconsistent with numerous texts. And among these texts are passages that occur shortly after the Iota 3 passage just quoted: 1054a29-32, and 1055a33-1055b29. As I read the passage (Iota 3 1054a26-29, Aristotle is trying to explain why it is that our language formulates adiaireton as a privative of diaireton when by nature to hen in the ontological sense is positive and prior to its privative contrary to plēthos. The explanation for this, according to Aristotle, is that what’s nearest to us is aisthēsis, and what’s diaireton is more easily detectable by aisthēsis than what’s adiaireton. I take it that the word logos in 1054a28 means something like ‘language’ rather than ‘definition’. A final remark about (diaireton, adiaireton) as a contrary pair in Aristotle’s thought. While I think it fairly clear that, on Aristotle’s view, the undividedness which constitutes ontological oneness is a positive and not a privative contrary, this is compatible with Aristotle recognizing other senses of diaireton/adiaireton on which the latter is by nature a privative contrary posterior to the former. In this connection, consider Aristotle’s remarks on the intelligibility of geometrical points in De Anima III.6 430b20-21—a text whose parallels to Iota 3 1054a26-29 have been impressed on me by Menn. (One might contend that it’s also intelligibility to us that’s at issue in the DA III.6 passage; but it’s far from obvious that this is so).

12 In Met. Iota 3 1054a26-29 we read:

It’s from its contrary that to hen is formulated [vegeta] and made manifest [delountan]—the undivided [to adiaireton] from the divided [to diareton]—because that which is plēthos, i.e. the divided, is more [readily] perceptible-by-sensation [aisthēton] than [that which is hen, i.e.] the undivided; it results that to plēthos is prior in logos to the undivided because of sense-perception [aisthēsis].

13 One way to see that Met. Δ.6 1015b34-1016b17 and Iota 1 1052a15-1052b1 concern not uniqueness but unity is to note ubiquity of degree talk (X is more hen than Y) in these passages.

14 On Youth, Old Age, Life and Death, and Respiration (468b10-12): animals of a superior constitution do not suffer [multiplication by division] because their nature is one to the highest possible degree [dia to einai tēn phusin autōn hōs endechetai malista mian].

15 1016b1-3 characterizes (but does not name) which beings in the universe are ‘unitary in the highest degree’. 
From Plato’s perspective, the exchange dramatizes a straightforward application of a (if not the) ordinary concept of *arithmos*. The exchange becomes intelligible if one appreciates that the ancients primarily use the noun *arithmos* to mean a *count or countable multitude* and that it often meant *quantifiable amount*. (Thus the *arithmos* of a mile is the 5,280 feet that compose it. The *arithmos* of this army is, say, a number of men now laying siege to our village: not the cardinality of a set or any kind of ‘abstract object’). As a foundation for a mathematical theory of countable multitudes, Euclid defines number [*arithmos*] as ‘plurality consisting of monads’ (*Elements VII* def. 1). This is a significantly different, and less primitive, mathematical concept than that at issue in Fregé’s attempts to define number. The modern number theorist starts with an object she calls ‘0’ and uses a successor function to define a sequence of objects (0, 1, 2, …) whose third member is plausibly interpreted (given the theory) as answering to the description ‘the number two’. The ancient number theorist starts by allowing herself to posit as many mathematical monads (=position-less mathematical points) as she wants, and develops her ‘number theory’ [*arithmétikē*] as a theory of finite pluralities of these monads. In this setting, the smallest ‘numbers’ (=countable pluralities) are two; and to get a four you need distinct twos to compose it. Nothing in the theory is readily interpretable as the number two.

In an attempt to explicate the (then) contemporary concept of *arithmos*, *Met. Δ13* (cf. Cat. 6) teaches that a number[16] is a delimited multitude [*peperasmenon pléthos*]; an amount [*poson*] that’s countable [*arithméton*] because it admits of some determinate division into finitely many discrete parts. On this conception, anything viewed as a finite plurality of distinct existents will constitute a number. So it’s not surprising that the existence of numbers is something that Aristotle takes to be manifest. Indeed, he takes so much to be manifest by sense-perception: numbers being (as we learn in *De Anima* II.6) among the *per se* objects of sense-perception *common* to all senses. In the context of Aristotle’s psychology, this latter claim means that even non-rational animals can perceptually discern some of the numbers in their sensible environment. A bird, e.g., will perceive a number in her nest when she sees *two white bodies* and is thereby alerted that one of her eggs has gone missing. Human beings, thinks Aristotle, differ from non-rational animals in having both a perceptual discernment of some sensible numbers (say, *3 goats*) but also the ability to count—and thereby gain knowledge of—other sensible numbers that our perceptual capacities do not suffice to grasp (e.g. *133 goats*). (NB that with Plato and Aristotle, we use ‘sensible number’ to mean any *arithmos* that is a plurality of sensible existents. Thus, while Aristotle will contend that animals can—quite literally—see some sensible numbers as the numbers they are, most sensible numbers will be far too large to allow of perceptual discernment.

So, for Plato and Aristotle, some numbers are sensible and corporeal. Now, from Aristotle’s perspective it is of great importance to see that every number is a number of things—that every number is a plurality that’s determinately many *somethings*. And this, he thinks, is no less true for incorporeal numbers than it is for sensible numbers. He will ultimately argue that numbers in general have reality only as amounts 

——-

[16] In the discussion of Aristotle and Plato that follows, I retain the traditional translation of *arithmos* as ‘number’. This poses, I think, no philosophical dangers provided one keep in mind the points made in the preceding paragraph.

[17] *Phys. III.7* 207b7–8, *IV.14* 224a2–17, *Met. 1092b16–35.*
different kinds of intelligible numbers as separate substantial-beings: (1) the objects studied by expert mathematicians in number theory \([\text{arithmein}]\), and (2) the Forms themselves which Plato now proposed to interpret as numbers that transcend those at issue in number theory.

Aristotle tells us in the *Metaphysics* that when Plato introduced intelligible numbers as separate substantial-beings he went on to argue that such numbers are causes of being. Aristotle adds that Plato had proposed a substantial-being named ‘the One’ \([\text{to hen}]\) as the highest cause and foundation \([\text{arche}]\) of being. And we further learn that Plato and his followers had attempted to work out a theory of how \(\text{to hen}\) functions as a foundation of being by developing the intuition that \(\text{to hen}\) is a foundation of number. Aristotle spends a good deal of time in the *Metaphysics* trying to show that this research programme has gone nowhere and is ultimately hopeless. On the final analysis, he contends, neither \(\text{to hen}\) nor any numbers are separately existing substantial-beings; thus neither can be identified as foundational sources of being in general. Mathematicians, he explains, are methodologically correct to pursue number theory as they in fact do—positing point-like but position-less mathematical monads and speaking about them as if they were non-corporeal substantial individuals. But these theoretical objects are not in fact separate substantial-beings at all. And neither are the pluralities of mathematical monads that get called ‘numbers’ in the context of mathematical number theory—such aggregates being mere amounts \([\text{posa}]\) of monads: abstracted quantities of a sort. The truth of number theoretic theorems, he argues, gives us no reason to think otherwise.

Despite his decisive rejection Plato’s henological programme for First Philosophy, Aristotle agrees with his Platonist interlocutors that there’s something importantly right in the thought that \(\text{to hen}\) constitutes a foundation \([\text{arche}]\) for numbers. And in the *Metaphysics* Aristotle proves eager to explain the sense in which it is indeed true that \(\text{to hen}\) is the foundation of numbers. Now, in contrast to its English correlate, the Greek verb \(\text{metrein}\) can mean not only ‘to measure’ but also ‘to count’. Observing that in ordinary Greek, \(\text{hen}\) sometimes functions in a noun-like way and means \(\text{metron}\): i.e. ‘measure’ in the sense of \(\text{unit-of-measure (unit-of-count)}\), Aristotle’s basic proposal is that what most deserve to be called the ‘foundations’ of numbers \([\text{arithmoein}]\) are the measuring-units \([\text{metra}]\) that make counting \([\text{arithmein, metrein}]\) possible. For a number \([\text{arithmos}]\), as he explains, is not simply a multitude but is more specifically a determinately countable multitude. A multitude, however, can only be determinately countable relative to some \(\text{metron}\), some unit-of-count, with respect to which the multitude can get correctly or incorrectly counted. It thus seems, to Aristotle at any rate, that a number’s being-the-number-it-is must always be founded upon some \(\text{hen}\) in this sense of \(\text{metron}\). And this suggests that a \(\text{hen}\) in this specific sense is the kind of \(\text{hen}\) that constitutes a foundation of numbers qua numbers.

Aristotle’s positive account of arithmetical oneness, of \(\text{to hen}\) qua foundation of number, gets its most detailed exposition in two texts: *Met.* Iota 1 (1052b20-1053b8) and N.1 (1087b33-1088a14). Aristotle’s strategy in both texts is to explain his proposal in the context of a kind of abstract theory of measurement and quantitative knowledge (i.e. knowledge of quantity qua quantity).\(^\text{19}\) For, while Aristotle sometimes deploys a more narrow notion of measurement in which counting and measuring are contrasted and viewed as different kinds of activities (see e.g. *Met.* Δ.13), he evidently thinks that on a deeper and more abstract level measuring a magnitude and counting a plurality need to be understood as the same kind of activity.

The theory starts from the observation that there are remarkably different kinds of thing that can be understood quantitatively: herds of sheep, harmonic intervals, metric poetry, corporeal magnitudes, weights, speeds, and so on. We develop our quantitative knowledge of the quantities populating these various domains of quantifiables by measuring them. And in every such case this involves deploying one or more domain specific unit-of-measure \([\text{metron}]\). Speaking a bit more precisely, on the abstract theory of measurement Aristotle develops in *Met.* Iota 1 and N.1 measuring is understood to involve the following ingredients:\(^\text{19}\)

1. a particular \(q\) to be measured
2. a genus of quantifiables \(G\) to which \(q\) belongs
3. one (or more) primitive \(\text{units-of-measure } U_i, U_j, \ldots\), where each such \(U_i\) marks off equisized \(\text{quantity-tokens} \) of type \(U_i\) in genus \(G\)

\(^{19}\) The theory is discussed at much greater length in Sattler (2017). Our two interpretations of the theory harmonize well—though there are differences on details, and some pronounced differences in emphasis (unsurprising given her focus on how the theory connects to issues in natural philosophy, and mine on how it connects to issues in metaphysics). In revising the present article, I’ve tried to tailor its presentation of Aristotle’s abstract measurement theory to facilitate comparison with the interpretation advanced by Sattler in her article.

\(^{19}\) Cf. Sattler (2017).
If \( q \) is the height of the statue, \( G \) will be length, there will be (say) just one unit-of-measure \( U \) and it will be (say) foot. If \( q \) is the size of an octave, \( G \) will be harmonic magnitude, and (on the harmonic theory Aristotle has in mind in Met. Iota 1 and Nu 1) our units-of-measure will be two: a diesis-interval of one size and diesis-interval of another size. If \( q \) is a number of goats in a pen, \( G \) will be goat pluralities, and \( U \) will be goat.

To better see how the theory handles the special case of counting, it will be useful quote Met. N.1 1087b33-1088a14 at length. (Bringing out the intended sense of metron I render it below as ‘unit-of-measure’ rather than simply ‘measure’).

It is apparent that to hen signifies a unit-of-measure [metron]; also [that] in every case there is something else underlying it. For instance, in harmonics [the hen is] diesis-interval, in magnitudes [the hen is] finger or foot or something of the sort, in rhythms [the hen is] heat or syllable, and similarly in heanness [the hen is] a definite weight. And indeed in all these cases in the same way [to hen signifies a unit-of-measure and there's something else underlying]... so that to hen per se is not the substantial-being [ousia] of anything. And this accords with reason. For, to hen signifies anything that's a unit-of-measure for a certain [type of] multitude [pleithos], and number [arithmos] signifies anything that's a measured multitude and a multitude of units-of-measure.20 This is why there's good reason also [to say that] to hen is not a number: for the unit-of-measure [for a number] is not [several] units-of-measure: it's rather the foundation [of the number] that the unit-of-measure and to hen is. And in every case, the unit-of-measure must be some same thing that holds of [huparcheinein] all [the measured things]. For instance, if horse is the unit-of-measure then horses [get counted]; if man [is the unit-of-measure] men [get counted]. If man, horse, god [are to be counted] the unit-of-measure is presumably animal and their number is animals. If man, pale, and walking [are to be counted]... their number will be a number of 'kinds' or of some such appellation...

Echoing Met. Iota 1 (1052b21-4, b31–2), our N.1 text explains that where to hen signifies foundation of number, to hen signifies a metron: a measuring-unit. A number, on this analysis, is taken to be a multitude partitioned by an associated measuring-unit into a determinate multiplicity of measured-units.21 For instance, says Aristotle, if a number of horses are to be counted, the unit [to hen] will be horse. In contrast, if human being, horse, god are to be counted, the unit [to hen] is presumably animal, and their number will be a number of animals (1088a9-13). If I am counting ‘man, pale, walking’, the unit [to hen] will be something like kind, and their number will be a number of kinds (1088a13–14). In all such examples, to hen qua foundation of number is the type of thing which the number determined is a number of.22

A comprehensive philosophical examination of these ideas would require a very extended discussion. Here we shall have to pass over more than a few important questions about this theory. But for present purposes, I’d like to emphasize one point in particular made quite manifest by the text above. When the Greek terms hen and metron indicate ‘unit’ and ‘unit of measure’, they exhibit the same type/token ambiguity as their English correlates (‘Yard and meter are two units’ vs. ‘Two units stat.’). But in explaining how to hen in the sense of unit functions as a principle of number, N.1 1087b33-1088a14 emphasizes that a unit (a hen) of the relevant sort will always be a repeatable type: ‘in every case, the unit-of-measure [metron] must be some same thing that holds of [huparcheinein] all [the measured things]’ (1088a8).23 Thus if a census-taker is determining the size of the populace, the hen which measures the plurality and constitutes the foundation of the number can be neither Callias nor Xanthippe. The hen must be something repeatable: e.g. human being. Note that on this picture, the unit [hen] that gets called the ‘foundation’ for an arithmos doesn’t itself get counted when we count that arithmos. And indeed, I fail to count the arithmos of goats in my field if I include in my count the repeatable type goat.

---

20 Following a suggestion of Meint’s I’m reading ho ti...ho ti in 1088a4-5 where Ross and Jaeger print hoti...hoti.
21 With 1088a8-8 cf. Iota 6 1056b20ff, Iota 1 1053a27-30, Δ.6 1016b18-20.
22 Cf. Physics IV/14 223b13–14.
23 The point that to hen qua foundation of quantitative knowledge must be a repeatable type is made especially clear in this N.1 passage. But it’s manifest that Aristotle is working with the same picture in Iota 1. To see this, one can attend to Aristotle’s remark at 1053a15: ‘the measure is not always one in number but sometimes there are many [measures]’ As Aristotle goes on to explain, at times we use two or more types to measure (e.g., the two diesis intervals in harmonic theory). The pairing of ‘not always’ with ‘sometimes’ in a15 is supposed to contrast the kinds of case Aristotle has been discussing with those he is about to discuss. On pain of absurdity, the earlier cases where the measure is ‘one in number’ must be cases in which the measure is a single type.
That the foundation of a number—a measuring unit—should thus be external to the numbers it measures, is (I think) a point of some importance for Aristotle in both Iota 1 and Nu 1.24 We noted above that from Aristotle’s testimony, we learn that Plato (and certain of his followers) wanted to posit some particular substantial-being called the One [to hen] as a foundation [archê] of number and of being. As a transcendent ‘one above many’, this One was understood to be a unique substance and separate from the intelligible numbers of which it is the foundation. To better understand what has gone wrong here, Aristotle thinks it important to clear up on the extent to which this picture gets something right about to hen as a foundation of number. He takes it to be importantly correct that a totality can only constitute a particular arithmos—a determinately countable plurality—by being related to a unit of count.25 The unit of count in relation to which a totality constitutes some particular determinate arithmos is a hen. But this kind of hen is not among the items that gets counted as ‘one’ when we use it to count. This hen transcends the numbers of which it is the foundation [archê] as a measure or standard of measurement.

In sum, consider the utterance ‘I’m holding two coins: one in this hand and one in that.’ On Aristotle’s view of the utterance, neither ‘one’ nor ‘one in this hand’ will pick out a unit: i.e. the foundation of this two. The relevant unit here is coin (or coin I’m holding). And what the utterance characterizes as singularities (in the sense of Section 1) are the two coins.26

5 The Distinctness of Ontological and Arithmetic Oneness

In Section 2, we noted Aristotle’s deep commitment to the following two theses:

**Thesis A.** being [to on] and to hen are equally general and so intimately connected that there can be no science [epistêmenê] of the former that isn’t also a science of the latter and its per se attributes

**Thesis B.** to hen is the foundation [archê] of number [arithmos] qua number

We proceeded to introduce ‘ontological’ as a label for the notion of one/oneness [to hen] at issue in Aristotle’s endorsement of the former thesis and ‘arithmetical’ for the notion of one/oneness at issue in his endorsement of the latter thesis. Taking stock of our work in Sections 3–4, it will be useful to collect some arguments concerning the distinctness of ontological and arithmetical oneness in Aristotle’s thought.

First, an ‘extensional’ argument to the effect that Aristotle could not, by his own lights, have coherently identified ontological and arithmetical oneness. As we’ve seen, Aristotle maintains that being and ontological oneness are convertible (and convertible per se). From this it follows that by necessity: X is a being iff X is one in the ontological sense. Now, units—arithmetical ones as conceptualized in Metaphysics N.1 and Iota 1—are always repeatable types. But Aristotle holds that some beings are non-repeatable individuals. So insofar some beings are not units but all beings are ones (in the ontological sense) Aristotle must think that arithmetic oneness is something different from ontological oneness.

Now, unit-hood is not something Aristotle discusses in very many texts. And he’s never (as far as I’m aware) especially concerned to highlight the fact that mundane individuals cannot be units. But that the First Unmoved Mover is not a unit, is a point Aristotle will make. So, in a Met. A.7 (1072a31-34) text affirming the simplicity of the First Unmoved Mover, we find Aristotle refusing to call his highest deity hen in the sense of ‘unit’. Aristotle explains (1072a32-34): “unit” [hen] and “simple” [haploun] are not the same; for “unit” indicates metron, but “simple” [indicates] a [thing] itself holding in a certain way [pós echôn auto]. From Aristotle’s perspective this entails that, contra Plato, the god which is the most fundamental foundation of being is not also a foundation of number. But though the First Unmoved Mover of Metaphysics A is not an arithmetical one, Aristotle does maintain that the god is simple and (hence) a unity. Indeed, while A.7 1072a32 uses ‘hen’ to mean ‘unit-of-measure’ in indicating something which the First Unmoved Mover is not, A.8 uses hen as adjective to mean ‘unified’ in explaining something this god is (1074a35-37): ‘the primary essence [to ti ên einai] has no matter; for it is fulfillment [entelecheia]; thus the First Unmoved Mover is unified [hen] in account and individual.27

24 With 1088a6-8 cf. 1053a27-30.
25 NB that there is nothing terribly Fregean about any of this. Unlike Frege, Aristotle does not see assertions of number as ‘higher-order’ assertions.
26 Cf. Met. N.2 1089b35.
27 Cf. Physics VIII.10 (267b25-26): ‘So then, it is clear that [the First Unmoved Mover] is indivisible and partless [adoiaretos kai ameres] and has no magnitude.’ NB in Aristotle the one-place expression ‘_ _ _ _ is unitary in number’ standardly indicates that _ _ _ _ is an individual (see esp.: Cat. 2b3, Met. 999b27-33). Notably, it is a rather special kind of unity A.8 attributes to the First Unmoved Mover since, as we know from Met. H.6, an essence with no matter ‘has no external cause of its being a unity’ (1045b4-5). And as we know from Physics 1, a being with unity in account can undergo no change.
A second argument concerning the distinctness of ontological and arithmetical oneness has the added benefit of helping us see why ontological oneness in Aristotle cannot be uniqueness in the sense of Section 1 (=being countably one). We’ve noted that central to Aristotle’s engagement with ontological oneness is his insistence that hen in the ontological sense is a pollachos legomenon. This is his insistence, to use the language of Section 3, that not everything which is one in the ontological sense is one in the same way. In contrast, for arithmetical oneness and uniqueness Aristotle proposes a quite uniform analysis. Every arithmetical one (qua being an arithmetical one) is a one in the same way; and every countable one (qua being a countably one) is one in the same way. There can, of course, be different arithmetical ones—different units—for different numbers X and Y: say if X is these four humans and Y is these two couples. But on Aristotle’s view of relatives [ta pros til], this relativity no more entails that there are different ways to be an arithmetical one than the fact that X and Y are husbands of different people entails that X and Y are husbands in different ways. Aristotle will likewise say that this couple is countably one relative to this unit (say: couple) but not countably one relative to this other unit (say: human). And it’s by this strategy that he will account for the fact that different things count as ‘one’ in different counting contexts. But he will also insist that everything which is countably one is countably one in the same way. For denying this, he thinks, will allow for the absurd possibility of countable ones X and Y that fail to be equal to one another and don’t collectively constitute a two.

A third argument pertaining to the distinctness of ontological and arithmetical oneness in Aristotle’s thought starts from a passage in Met. Iota 6. As we shall discuss further in Section 6 below, Met. Iota 1 (echoing Δ.6) proposes analyzing distinct ways to be unified as distinct ways to be undivided [adiaireton]. For instance, if the unity of X is corporeal continuity then X’s unity (says Aristotle) consists in its parts being undivided from one another in place; in contrast, if X is humankind then X’s unity consists in its parts (humans) being undivided from one another in real definition. Developing this picture, Iota 3 points out that oneness in the sense of being unified and undivided [adiaireton] will have being divided [diaireton] as its contrary [enantion]. This privative contrary of unity Aristotle calls to plêthos by which he means ‘multitudinousness’ not in the sense of determine multiplicity but rather in the sense of the indeterminate manyness of something viewed as dis-unified and lacking integration: a corpse say. (For according to Aristotle, what a perishing thing—qua perishing—perishes into is per se a multitude [plêthos] but is not per se an arithmos). So, to hen in the sense of unity has a privative contrary: namely, multitudinousness [to plêthos] in this sense of indeterminate dis-united dividedness. In contrast, as Aristotle points out in Iota 6, to hen in the sense of unit-hood has no privative contrary. As blind is to sighted, white is to black, and united is to dis-united: unit is to nothing. Where ‘multitude’ [plêthos] has the sense of determine multiplicity and number, Aristotle says to hen in the sense of unit is still opposed to plêthos. But here the mode of opposition is that of relatives [ta pros til] (1057a12-17):

Multitudinousness [to plêthos] is not contrary to oneness [to hen] in every way. Rather, in one sense, they are [contraries] as has been said, since undivided [adiaireton] is contrary to divided [diaireton]; but in another sense, if [the multitude] is a number and to hen is [its] unit-of-measure [metron], then [to hen and to plêthos] are relatives [and not contraries]: as knowledge and the knowable.

Aristotle will, of course, use the word adiaireton (‘undivided’, ‘indivisible’) not only in connection with unities but also with singularities (=items countable as ‘one’). But it’s unity that’s at issue in this text. And whereas a unity is adiaireton in the sense of being internally undivided and hanging together, for Aristotle a singularity is adiaireton in the sense that (qua singularity) it lacks a proper quantitative divisor and is quantitatively equal to everything else that’s also countable as ‘one’. Singularities, qua singularities, are thus externally adiaireton. According to Aristotle, the subject matter of (what he knew as) number theory is things adiaireta in this sense and what pertains to things adiaireta in this sense per se. In contrast, ontological oneness and its per se attributes are studied in First Philosophy, not by mathematicians researching number theory.

I’d like to close this section by suggesting that from Aristotle’s perspective to conflate ontological oneness with either arithmetical oneness or being countably one would constitute something like a category mistake. As we have seen, an item functions as an arithmetical one by being a unit. But unit-hood, like motherhood, is a characteristic something possesses only relationally. To say X is a unit, is to say that X plays a

---

28 Thematic discussions of the category of relative [pros til] appear in Cat. 6 and Met. Δ.15. Both chapters discuss the sense in which a metron is pros til as do Iota 1 and Iota 6 (in somewhat different ways).

29 Cf. Met. M.7 1082b16-19.

30 On Met. Iota 3 1054a26-29 see note 12 above.

31 Of course, measured has a privative contrary in unmeasured. The point that measure itself has no such contrary.
certain role relative to a particular class or range of measurables. In this respect, Aristotle will see ‘X is a unit’ as a predication in the category of relative. Likewise, depending on how it’s viewed, being countably one can be considered either as a relative [pros tw] or as an amount [poson]. Yet according to Aristotle, ontological oneness is importantly extra-categorical. As Aristotle puts it in Iota 2, being and ontological oneness ‘accompany the categories equally but are not in any category’ (1054a13-16). And if X is a unity, it’s not externally but internally that X is a unity.

6 The Source of Assimilationism: Three Texts

As in Section 2, let’s call ‘Assimilationist’ any interpretation of the Metaphysics’ henology on which Aristotle effectively assimilates ontological to arithmetical oneness. These are interpretations on which Aristotle either identifies ontological with arithmetical oneness or takes ontological oneness to be (somehow) analyzable in terms of arithmetical oneness. While it’s easy enough to find scholarly endorsements of Assimilationist theses, these endorsements don’t really get coupled with detailed philosophical elaborations of what positive Aristotelian henology might result. Indeed, the primary cause for scholarly attraction to Assimilationism is textual rather than philosophical. For, scholars like Ross and Menn have thought that there are a handful of Metaphysics texts—three in particular—that simply need to be read as asserting some kind of assimilation of ontological to arithmetical oneness. It is to these three passages that we now turn. But first some preliminary remarks on our books.

When the contemporary scholar turns to consult the Metaphysics she opens one (or both) of the two most recent critical editions—those of Ross (1924/1953) or Jaeger (1957). But it is widely agreed among philologists that a new critical edition of Aristotle’s Metaphysics is needed. For, we today know a great deal more about the transmission history of Aristotle’s Metaphysics than Ross and Jaeger did 60+ years ago. And numerous editorial choices Ross and Jaeger made in reconstructing Aristotle’s text turn out to rest on incomplete and/or inaccurate information. Ross and Jaeger based their editions on the direct testimony of just three Greek manuscripts (E, J, and Aα). Building on the pioneering work Harlfinger (1979) (who himself building on Bernardinello (1970)) subsequent research has confirmed that all Greek Metaphysics manuscripts known to be extant ultimately descend from two (no longer extant) late ancient exemplars standardly dubbed α and β respectively. Modulo a good deal of intra-stemmatic contamination, readings from the α-text are best witnessed by manuscripts: E, J, V4, E; readings from the β-text are best witnessed by: Aα, M, C, V4.33

When they produced their editions, Ross and Jaeger were in no good position to reliably reconstruct the readings of both α and β for textually problematic Metaphysics passages. But given the present state-of-the-art, if the relevant manuscript data is available we often can reliably reconstruct the original α- and β-texts for a given Metaphysics passage. This will be important in follows. For, as mentioned above, the primary cause for scholarly attraction to Assimilationism is a trio passages—let’s call them Passage 1 (Met. Iota 1 1052b16-19), Passage 2 (Met. Iota 1 1053b4-6), and Passage 3 (Met. A.6 1016b17-18). Passages 1–3 each seem to say something about ‘the essence of oneness’. But two of the passages are highly unstable in the manuscript tradition. Given the differing texts our manuscripts preserve, what Aristotle actually wrote in these two passages is far from obvious. Now, the modern scholarly tradition has tended to read Passages 1–3 together in a tight hermeneutic circle. And among the mutually reinforced and reinforcing interpretive assumptions now operative in this hermeneutic circle are both Assimilationist interpretive ideas and some questionable text-critical judgments about what we have best reason to believe Aristotle actually wrote. These judgments are embodied in the very versions of Passages 1–3 that Ross and Jaeger print.

In the light of our philosophical work above, and with attention to genealogy of the Byzantine manuscript tradition—our best evidence for determining the correct versions of Passages 1–3—this section sketches a case for skepticism about the apparent support Passages 1–3 seem to provide for Assimilationism. In what follows, I will not rehearse fully detailed interpretations of Met. Iota 1 and A.6. But I will be defending readings of Passages 1–3 on which they complement rather than tell against my larger interpretive approach.

---

32 For a good overview of the relevant issues see: Bydén (2005), Fazzo (2016), Golitsis (2016a), Kotwick (2016), and especially Primavesi (2012).
33 For details see Harlfinger (1979) and the articles mentioned in the previous note.
34 In the following sections, I draw on my own collation/re-collation of the following manuscripts: E, J, V4, E, E, M, C, Aα. I would like to thank Prof. Dr. Harlfinger and the Aristoteles-Archiv der Freien Universität Berlin for allowing me access to their electronic and microfilm holdings during the summer of 2011. I give special thanks to Dr. Pantelis Golitsis for consultation in conducting this research.
to Aristotle’s henology. The readings I will be presenting cannot be dismissed as ad hoc. For the readings are based on text-critical proposals about Passages 1–3 that are no less, if not more, plausible than those adopted by Ross and Jaeger; and they are readings that succeed in making excellent sense of the passages in their immediate context. This, at any rate, is what I intend to argue.

6.1 Passage 1–2 (Met. Iota 1 1052b15–19 and 1052b4–6)

Regarding the context of Passages 1–2, the first thing to note is that the two texts occur in Metaphysics Iota 1: a chapter that stretches from 1052a15 to 1053b8. Thus they are embedded in the chapter as follows:

1052a15-b15 → Passage 1 → 1052b19-1053b3 → Passage 2 → 1053b6-8

For what follows, some remarks on the block of Iota 1 text preceding Passage 1 will prove useful.

Met. Iota 1 opens (1052a15-16) with the statement that ‘oneness is said in many ways’. For Aristotle, a predicable πρῶτοι is X is ‘said in many ways’ [λέγεται πολλαχώς] iff X fails to be associated with a unique formal cause Y such that for anything that is X to be X is by definition precisely for it to be Y. So in making this statement, Aristotle is effectively claiming that (as we put it above) there are many different ways to be one—he’s claiming that what it is for some things to be one differs from what it is for other things to be one: that to èn einai for some things differs from to èn einai for other things. This isn’t supposed to be news to anyone. For, as Iota 1 reminds us (1052a15-16), Met. Δ.6 has already explained that to èn is said in many ways [λέγεται πολλαχώς].

Having asserted that to èn is said in many ways, Aristotle adds that although it’s said in more ways [πλεοναχώς] there are ‘four main ways [πρώτα] of being one exhibited by beings that are ‘primitive and important types of per se unity connected with primitive (or purportedly primitive) entities.

Regarding the context of Iota 1’s 1052a19-1052b1 discussion of these four ways to be a unity, Aristotle had interspersed a handful of remarks to the effect that this-or-that primitive entity exemplifies this-or-that way of being one-or-another of these [i.e. to be continuous, or to be whole, or...], and in other cases it’s to be something else which is also rather close to the name...16

15 Reading πρῶτοι with Ross and the MSS at 1052a18, and rejecting Sylburg’s conjecture printed by Jaeger. Like Δ.6, Iota 1 does not claim to provide an exhaustive classification of per se types of unity: Aristotle simply means to be collecting four particularly salient and important types of per se unity connected with primitive (or purportedly primitive) entities.
16 The passage continues (1052b7-9):
Aristotle is here claiming that what is for X to be one, is in some cases to be this, in other cases to be that, and in further cases to be something else. This would seem to suggest the phenomenon of oneness is simply too diverse to be captured in any single real definition. Indeed, this is exactly what should be the case if τὸ ἐν really is, as Aristotle announced in the first sentence of Iota 1, 'said in many ways'.

After some further discussion of the Socratic distinction between asking 'What is X?' and 'What things are X?' (1052b7-15), we arrive at Passage 1 (1052b15-19). What follows is the Greek text for Passage 1 printed in the critical editions of Ross and Jaeger (they print the same text) together with Ross' influential translation as it appears in Barnes' revised Oxford edition of Aristotle's complete works (Barnes 1984). To better discuss the relevant interpretive and text-critical issues, I've divided the text into three parts:

**Passage 1: Ross/Jaeger text with Ross' translation (rev. Barnes)**

[1.1] διὸ καὶ τὸ ἐνὶ εἶναι τὸ ἀδιαιρέτῳ ἐστὶν εἶναι, ὅπερ τῶν ὑπὸ [1.2] καὶ ὑπὸ χωρίσματος ἢ τὸ τὸ δὲ ἡ ἐνὶ εἶναι τὸ ἀδιαιρέτῳ, μᾶλλον δὲ τὸ μέτρῳ εἶναι πρῶτω ἐκάστου γένους καὶ κυριάτης τοῦ ποσοῦ.

[1.1] For this reason to be one is to be indivisible (being essentially a ‘this’ [1.2] and capable of existing apart either in place or in form or thought); or perhaps to be whole [1.3] and indivisible; but it is especially to be the first measure of a kind, and above all of quantity.

Scholars have tended to write about Passage 1 as if Aristotle were considering two competing candidates for the essence of oneness: (i) being undivided, and (ii) being a first measure. But this can't be quite right. For the essence of oneness would be the unique formal cause Y such that by definition for anything to be one is to be Y. And according to Aristotle, no such Y exists. As the first sentence of Iota 1 declares: oneness is 'said in many ways'; while there can be a real definition of this or that way to be one; τὸ ἐνὶ εἶναι in Passage 1 simply cannot be intended as a name for the essence of oneness.

So, in the broader context of Met. Iota 1, the Assimilationist reading of Passage 1 on which Aristotle is definitionally identifying arithmetic oneness with oneness quite generally looks like a non-starter. But the Assimilationist will want to insist that the ‘especially’ (μᾶλλον) in text [1.3] needs to be taken seriously. In this vein, Assimilationist readers of Passage 1 have suggested that someone who answers ‘What is it to be one?’ by replying ‘It’s to be the first measure of a kind’ has (according to Aristotle) defined the most fundamental variety of oneness to which all other varieties of oneness somehow reduce. Now, if this were what

...τῇ δύναμις δ᾿ ἔκειναι, ὡσπερ καὶ περὶ στοιχείου καὶ αἰτίου εἰ δὲν λέγεται ἐπὶ τὸ τὸν πράγματα διαιρόμενα καὶ τὸν ἰδίατας ἄρας ἀποκαλοῦν.

The τῇ in ἐκείναι is absent in β family MSS A' and M. Assimilationist readers may be tempted to take ἔκειναι as referring to the four just mentioned ways τρόποι of being unified. Apparent problems for this suggestion are that 1052b5-6 twice uses τούς καὶ to refer to these four τρόπους, and that ἔκειναι is neuter rather than masculine. It seems to me that the ἔκειναι most likely refers to either (a) entities one would enumerate in answering the ποία τῇ δὲν λέγεται; question, or (b) the pair of questions λέγεται τοιαῦτα ποία τῇ δὲν λέγεται; and τί ἐστι τὸ ἐκείνα; whose combined force δύναμις is like what would be felt if one were a dialectical respondent who needed to give an account of (say) element both τῇ τῶν πράγματα διαιρόμενα καὶ τῶν ἰδίατας ἄρας ἀποκαλοῦν. The sense of ἔγγος τῷ ἰδιαίτερον ἐστὶ is far from obvious. Unattested elsewhere in Aristotle and—so far as I can tell—contemporary philosophical prose, the idiom may be related to one we find in the fragment 245 of the 4th cent. BCE comic poet Alexis in which, after lamenting an aporia about ἔνοι an unnamed philosopher declares (245,14-16):

καὶ ταύτι ἐνίῳ, μιὰ τὰν ἄθηγάν καὶ θεοῦ,

οὐκ αὖ ἡ τὰ ἐστιν, ἀλλὰ ἄφιξεν γε γε τι

τοιαύτον, ἔγγονς τὴν τούναμος.

27 1052b7-1052b15, ὡσπερ...ἐπάνων, explains how τὸ τῷ στοιχείῳ ἐστὶ is true in one sense and false in another. The sentence is true if it means ‘Fire is an element’ and constitutes an answer to the question ποία στοιχεία ἐστὶ. But it’s false if the ἐστι in τῷ στοιχείῳ ἐστὶ communicates definitional identity: i.e. what’s at issue when one asks τί ἐστι τὸ στοιχείῳ ἐστί; Other readers of Iota 1, Assimilationist ones in particular, have been tempted to read 1052b7-15 as if the comparison with fire and element were not supposed to explain the distinction of 1052b1-3 (ποίας ἐστὶν; ν. τί ἐστι τὸ ἅλλον ἐκείνα;) but was rather supposed to explain 1052b5-7 and tell us something about how the different ways of being one alluded to at 1052b5-7 relate to each another. This is implausible for several reasons. Most importantly: both in Aristotle generally and in 1052b7-15 in particular, to be fire is not a way of being an element any more than to be a human or to be a horse is a way of being a human. Humans and horses, on Aristotle’s view, are distinct instances of the kind animal, but what it is for a human to be an animal and what it is for a horse to be an animal are identical. Likewise, what 1052b1-3 says about fire—ὡς μὲν πράγμα τι καὶ φύσις τὸ τῷ στοιχείῳ—holds also for water. Neither to be water nor to be fire is a way of being an element; both are elements and elements in the same sense. So where τὸ ἐνὶ εἶναι is sometimes (1052b5) one of the four τρόποι of being one, τὸ μερὶ εἶναι is never a correct answer to τί ἐστι τοῦ στοιχείου ἐστί.
Aristotle wanted to say, writing that τὸ ἐνὶ εἶναι is μάλιστα to be a primary measure would be a very weird way to say it. But arguably, the biggest problem with this suggestion is that Aristotle nowhere explains how any such reduction would go, never tries to motivate the philosophical plausibility of this kind of reduction, and doesn’t ever even assert that any such reduction is possible (it’s far from obvious that it is). I won’t push this line further here. For beyond defending alternative readings of Passages 1–3, my main goal in what follows is to undermine the text-critical and interpretive assumptions about Passages 1–3 that have led scholars to make these kinds of otherwise unmotivated suggestions in the first place.

To this end, let us now take a closer look at Passage 1 itself. It bears emphasis that the Greek text for Passage 1 one reads in Ross’ and Jaeger’s editions of the *Metaphysics*—the Greek text which gets translated in standard, modern translations of the text—owes much to several questionable editorial interventions originally proposed in the 19th century. To sharpen our thinking about the relevant text-critical issues, it will be useful to reconstruct the original readings of the (non-extant) α- and β-exemplars from which our extant manuscript sources descend. Using Harlfinger’s stemma codicum, and inspecting several manuscripts, we will be useful to reconstruct the original readings of the (non-extant) α- and β-exemplars from which our extant manuscript sources descend. Using Harlfinger’s stemma codicum, and inspecting several manuscripts.

**Passage 1: α-text**

[1.1] διὸ καὶ τὸ ἐνὶ εἶναι τὸ ἀδιαιρέτῳ ἐστὶν εἰναὶ ὡς ἐν τὸν ἄντι [1.2] καὶ ἄχωριστῳ ἢ τόπῳ 

(Note that the α- and β-exemplars differ significantly at both [1.2] and [1.3]. We have here two rather different versions of Passage 1. Apparently persuaded by Bonitz’s worry that ἄχωριστῳ (1052b17) is unlikely Aristotelian Greek, Ross and Jaeger follow Bonitz (1848, 1849) in favoring the testimony of manuscript Αβ (β-tradition) at [1.2] thus reading ἤδια χωρίστῳ. Accepting the ή καὶ of the α-version in [1.2], they again follow Bonitz in emending τὸ ὄλω to τὸ ὄλω (1052b17), and preferring the β-tradition’s ἀδιαιρέτῳ (1052b17-18) over the α-version’s διωρισμένῳ. Consider now μάλιστα…πρῶτον in [1.3]. This is the text that, when read in Ross’ and Jaeger’s editions, seems to say that the essence of unity ‘is especially to be a primary measure’. While Ross and Jaeger print μάλιστα δὲ τὸ μέτρον εἰναὶ πρῶτον, neither the α- nor the β-exemplar actually transmit this. To get the reading printed by Ross and Jaeger one must (i) accept the β-version’s τὸ and reject the α-version’s τὸ in [1.3], and (ii) manually change μέτρον εἰναὶ πρῶτον (the reading transmitted by both versions) to μέτρον εἰναὶ πρῶτον (which is transmitted by neither). This was precisely the suggestion of von Christ in his 1886 edition of the *Metaphysics*. Indeed, modulo one quite minor difference at 1052b16, the version of Passage 1 printed by Ross and Jaeger is identical with von Christ’s 1886 proposed reconstruction. Unfortunately, von Christ, Ross, and Jaeger provide no substantive case for any of these textual interventions.

Speaking generally, modulo standard interpretative/linguistic considerations Ross and Jaeger tend to prefer β-tradition readings when textual agreement between the α- and β-traditions is lacking.30 In contrast,

---

38 Some notes on the reconstruction below. As they do elsewhere, E and V exhibit β-contamination here (the latter has διωρισμένῳ in the margin by διωρισμένῳ; C exhibits α-contamination. In E, someone has erased the omega of an original τῷ μέτρον and written an omicron in its place; but the original omega is still clearly visible. Combining this evidence with the independent testimony of E and V, allows for conclusive determination that τῷ appeared in α-archetype. Jaeger’s report that at 1052b18 someone has corrected E τῷ μέτρον from something else, is incorrect.

39 More precisely: they tend to prefer the reading of Αβ (Ross and Jaeger were ignorant of the fact that there are other extant β-manuscripts).
contemporary philologists like Primavesi argue for ceteris paribus deference to α-tradition readings in such contexts. As for Passage 1, it seems to me that Bonitz, von Christ, Ross, and Jaeger are wrong to prefer the β-version of [1.2] in reading ἰδίας χωρίστω instead of the α-tradition’s ἰδίᾳ χωρίστῳ. The worry that ἰδίᾳ χωρίστῳ is unlikely Aristotelian Greek is readily overcome by attention to Met. Δ.6 1016b2. I know of no commentator who has given an illuminating account of what the text would exactly mean if Aristotle wrote ἰδίᾳ χωρίστῳ. But as best as I can tell, ἰδίᾳ χωρίστῳ makes far better philosophical sense in the immediate context. As we’ve seen, earlier in Iota 1 Aristotle had distinguished four types of unity as ways of being undivided (ἀδιαίρετον) (1052a36ff). Reading the α-text of [1.2], Aristotle would be developing this proposal by explicating the undividedness at issue in 1052b16 (τὸ ἀδιαίρετον ἐναι) as a matter of something’s being ‘un-separated’ [ἀδιαίρετον] in one of the four respects: ἦ τόπῳ ἦ εἴδει ἦ διανοίᾳ, ἦ καὶ τῷ ἔλεγχοι.42

Concerning [1.3] we noted above that where the consensus reading of both α and β in 1052b18 is μέτρων ἐναι πρῶτον, Ross and Jaeger instead print μέτρῳ ἐναι πρῶτῳ. In thus printing two datives rather than two accusatives, these editors are rejecting the testimony of the most important direct (and indirect) text-witnesses for [1.3] and adopting what’s effectively a conjectured emendation of von Christ. This emendation would seem to be of no little significance. For, as is well known, Aristotle’s technical idiom of essentialist definition (‘to be X is to be Y’) is τὸ ἄνωτερον ἐναι... ἐστὶ... Y ἐναι. The idiom is ubiquitous in Iota 1 1052b5-19 quite generally, and in Passage 1 (1052b15-19) in particular. In standard Aristotelian Greek (given declinable expressions X and Y), τὸ ἄνωτερον ἐναι... ἐστὶ... Y ἐναι would be a highly irregular way to express a definitional identification in which the definiendum is named by X and candidate definiens named by Y. And given [1.1]–[1.2]’s preceding series of definienda in the dative, it seems especially unlikely for Aristotle to have written τὸ ἄνωτερον ἐναι... ἐστὶ... μέτρον ἐναι πρῶτον in [1.3] if he wanted to indicate a further definitional identification with μέτρον πρῶτον naming the candidate definiens. In order for Passage 1 to state the definitional thesis ‘to be one is... above all to be a first measure...’, von Christ’s μέτρῳ ἐναι πρῶτῳ really does seem to be required.43

As μέτρον ἐναι πρῶτον in [1.3] is the consensus reading of both α and β, to determine whether we ought to accept von Christ’s emendation, sound philological practice requires we ask whether Passage 1 can be made grammatically and philosophically intelligible without the emendation. It turns out that it can—provided, at any rate, we read τὸ μέτρον ἐναι πρῶτον with α rather than τὸ μέτρῳ ἐναι πρῶτῳ with β.44 Now, there are good philological grounds for preferring the α-version’s διαιρέτῳ at 1052b17 over the more philosophically sterile ἀδιαιρέτῳ of the β-version.45 And in fact, it seems to me that the α-version of Passage 1 in general—and [1.3] in particular—makes excellent sense both linguistically and philosophically. Indeed, I think that the α-text of Passage 1 is very much more philosophically superior to the reconstructions of Passage 1 proposed by modern editors, and that the α-text of Passage 1 is quite likely what Aristotle actually wrote. What follows is a proposed punctuation for the α-text of Passage 1 together with a translation:

---

40 Thus Primavesi (2012: 458):

In editing the Metaphysics, one is well advised to give preference to the wording of the α-version in passages which are transmitted by both versions, but to examine with particular care the credentials of passages which are transmitted by α-alone.

41 Pantels Golitsis has suggested to me that the β-reading, could easily have emerged from the α-reading by a process of mechanical dittography followed by subsequent confusion of the triangular uncial letters, alpha and delta: ΚΑΙΑΧΡΩΣΤΩ ↔ ΚΑΙΑΙΑΧΡΩΣΤΩ ↔ ΚΑΙΑΙΑΧΡΩΣΤΩ.42

42 The intended correspondences with 1052a34-1052b1 would perhaps be:

1. ἰδίᾳ χωρίστῳ τόπῳ → unity by continuity
2. ἰδίᾳ χωρίστῳ εἴδει → general unity
3. ἰδίᾳ χωρίστῳ διανοίᾳ → individual unity
4. ἰδίᾳ χωρίστῳ τῷ ἔλεγχῳ → holistic unity

No such correspondences are forthcoming if we (with Bonitz, von Christ, Ross and Jaeger) read the β-version instead.

43 One who thinks otherwise owes us either (1) a clear parallel text that does use τὸ ἄνωτερον ἐναι... ἐστὶ... Y ἐναι to express a definitional identification (with definiendum named by declarative expression X and definiens named by declarative expression Y), or at least (2) a very compelling account of why such a definitional construction would switch from dative to accusative in Passage 1.

44 I’m highly dubious that accepting the β-version’s τὸ μέτρῳ ἐναι πρῶτῳ results in linguistically plausible Aristotelian Greek (NB the preceding paragraph in the main text).

45 Compared to διαιρέτῃ, the β-version’s 1052b17 ἀδιαιρέτῳ is far more likely to be scribal conjecture introduced in response to an illegible or defective source text.
Passage 1: \( \alpha \)-text and proposed translation

[1.1] διὸ καὶ τὸ ἕνι εἶναι τὸ ἀδιαιρέτῳ ἐστὶν εἶναι, ὡσπερ τὸδε ὄντι [1.2] καὶ ἄχωρός τε ἦ τοῦτο ἦ ἕνεκα τοῦ ἄλλῳ. [1.3] καὶ διωρισμένῳ μᾶλιστα δὲ τῷ μέτρον εἶναι πρῶτον ἕκαστοῦ γένους καὶ ἀκμάτατα τοῦ ποσοῦ.

[1.1] So indeed, to be one is to be undivided, to be a being that’s precisely a ‘this’; [1.2] i.e. to be un-separated (either in place, or in form, or in conception, or even with respect to the whole), [1.3] and to be defined, but preeminently [to be one is to be defined] with respect to the existence of a prime measure of a particular genus: and predominantly of quantity.

The translation above is more ‘literal’ than ‘interpretive’. To further explain my proposed interpretation I submit the following five points.

(1) When Aristotle uses τόδε to characterize something’s manner of being, often the intended contrast is τόδε vs. τοιόνδε. But this is unlikely to be the distinction at issue when Aristotle writes ὡσπερ τὸδε ὄντι in [1.1]. Following a suggestion of Menn’s, I propose taking the intended contrast in [1.1] to be τόδε vs. τοιόνδε: ‘for X to be one is for X to be undivided, for X to constitute not a these (τάδε) but a this (τόδε)—i.e. for X to be un-separated...’ I’m taking the ἦ in καὶ ἄχωρός τε as basically epexegetic.

(2) Following the punctuation of Ross and Jaeger, scholars who prefer the \( \alpha \)-text have tended to read καὶ τῷ ἄλλῳ καὶ διωρισμένῳ as a unit. But emphasizing the ἦ... ἦ... ἦ... καὶ particle construction, one can just as well take τόδε... ἦ καὶ τῷ ἄλλῳ as a unit apart from καὶ διωρισμένῳ. The result, I suggest, is a philosophically richer text.

(3) διωρισμένῳ is a perfect passive participle of the verb διορίζειν which means define in the sense of give definition to i.e. mark out, specify, or distinguish. (In Aristotle, διορίζειν almost never means define in the sense of give a logos of some name or essence). For the sake of literalness (to preserve the participle’s verbal features) I’ve translated διωρισμένῳ as ‘to be defined’. But as a matter of interpretation, I think διωρισμένῳ in [1.3] is best understood as meaning to be definite where something is definite in the relevant sense either per se or with respect to something else that’s specified and thereby defined it (i.e. given it definition).

(4) I think the καὶ (‘and’) in καὶ διωρισμένῳ is best taken in one of two ways: either (a) as a connective linking διωρισμένῳ to the unit ἄχωρός τε ἦ... ἄλλῳ or (b) as a connective linking διωρισμένῳ to the unit τὸ ἀδιαιρέτῳ... ἄλλῳ. On reading (a) Aristotle would intend καὶ διωρισμένῳ to extend and further amplify his expression of the same phenomenon of oneness (i.e. unity) he’s so far characterized as ἀδιαιρέτῳ εἶναι, ὡσπερ τὸδε ὄντι. The thought would be that unity is indeed a matter of un-separatedness (ἄχωρότω ἐνα—things’ togetherness in a place, or in a kind, or in some other respect—but that unity is also simultaneously a matter of being definite (διωρισμένῳ εἶναι). On reading (b), Aristotle would be introducing διωρισμένῳ εἶναι as a way of being one that’s distinct from (though not necessarily unrelated to) to unity. Either way, I take the remainder of [1.3] to concern not unity but another variety of oneness such that (on Aristotle’s view) for X to be one in this latter way is for X to be διωρισμένῳ in a very specific sense: i.e. διωρισμένῳ [marked off] τῷ μέτρον εἶναι πρῶτον.

(5) With μᾶλιστα δὲ τῷ μέτρον εἶναι... ποσοῦ Aristotle is introducing a new point that’s supposed to be accepted not on the basis of anything that’s come earlier in the chapter, but on the basis of what will follow. Grammatically, the articular infinite must be taken as some kind of dative of respect; and it’s most easily interpreted as picking up on διωρισμένῳ. Aristotle is asserting, I suggest, that there’s an especially prominent sense of ‘one’ on which for X to be one is for X to be defined (διωρισμένῳ) in the sense of being distinguished or marked out by some (domain-specific) measuring unit. This sense of one is especially prominent or common (μᾶλιστα can mean both) because of its prevalence in the ubiquitous practices of counting and measurement. And on the theory of counting/measuring developed in the remainder of Iota 1, for X to be counted or measured as one is for X to be defined with respect to the existence of a ‘prime measure’ (μέτρον πρῶτον)—a domain specific unit of count/measurement.

46 τόδε vs. τοιόνδε: e.g. Rocinante is a ‘this’ (τόδε) not a ‘such’ (τοιόνδε) loyal and horse are ‘souches’ and not a ‘theses’. Arguably, 1052a15-1052b1’s four ways of being one are supposed to constitute four ways for something’s to be unified. But if this is right it’s manifestly νοέσα in a broad sense that’s at issue. For, the fourth way Aristotle countenances pertains to universal beings (1052a29-1052b1), and on Aristotle’s standard deployment of the τόδε vs. τοιόνδε contrast no universal is τόδε.

47 I’m told that this is what Castelli does in her Clarendon translation of Iota (I haven’t yet seen it: NB note 5 above).

48 Whether or not this is what Aristotle’s saying here, it is, I submit, his considered view.

49 To see that being definite might plausibly be understood as a kind of oneness distinct from unity, consider what Aristotle meant when, echoing Plato, he wrote: ‘it’s impossible to think at all without thinking one [thing]’ (Met. I.4 1006b10).
On the reading I’ve sketched with (1)–(5) above, Passage 1 introduces several different definitional characterizations of several different ways to be a one; and it does so without asserting any claim concerning their analyzability relative to each other. The reading is based on the transmitted α-text which, I contend, has a considerably better claim to represent what Aristotle actually wrote than the text for Passage 1 that Ross and Jaeger print. As a linguistic matter, to get Passage 1 to say that to be a first measure is (somehow) the best or most fundamental account of to èn èinà, it seems that we have emend the transmitted text of [1.3] in the manner proposed by von Christ and uncritically adopted by Ross and Jaeger. The result of doing so, I argue, is a philosophically inferior text. And as the following note explains, even putting interpretative issues aside, text-genealogical considerations counsel against von Christ’s proposal. In support of von Christ’s emendation the Assimilationist will point to the concluding sentence of Iota 1. This, of course, is our Passage 2. And it is to this latter text we must now turn. For I intend to argue that when carefully read, Passage 2 actually provides strong support for the interpretation of Passage 1 I’ve sketched above against the Assimilationist alternative.

What follows is the Greek text for Passage 2 printed by Ross and Jaeger, together with Ross’ translation (as printed in Barnes’ Complete Works):

Passage 2: Ross/Jaeger text with Ross’ translation (rev. Barnes)

οὗτος μὲν οὖν τὸ èν èιναι μάλιστα ἐστίν κατὰ τὸ ὅνομα ἀφορίζοντι μέτρον τι, καὶ κυριώτατα τοῦ ποσοῦ, εἶτα τοῦ ποιου, φανερώ.

Evidently, then, being one in the strictest sense, if we define it according to the meaning of the word, is a measure, and especially of quantity, and secondly of quality.

It will be noted that Ross’ translation constitutes a highly interpretive rendering of Passage 2. As I explain below, this translation very much depends on some highly dubious interpretive assumptions. Indeed, the broader context of Met. Iota 1 makes it quite unlikely that Passage 2 should mean what Ross’ translation suggests it does.

It will be useful to begin with a few linguistic and textual points. (1) In Aristotle, the construction τὸ Xeton èinà doesn’t always mean ‘the essence of X’, and in Passage 2 τὸ èn èiñà simply cannot mean ‘the essence of one’ in an unqualified sense. For, to repeat, according to Iota 1, τὸ èn is ‘said in many ways’ [λέγετα πολλαχῶς] and this entails for Aristotle that there’s no such thing as the essence of X. (2) Philological information unavailable to Ross and Jaeger supports reading ἀφορίζοντι in Passage 2 rather than ἀφορίζονται with Jaeger and Ross. But while I proceed on the assumption that ἀφορίζονται is correct, the interpretive line I develop works equally well for the reading ἀφορίζοντι. (3) The construction governing Passage 2 is ὃτι μὲν οὖν...φανερῶν (‘Evidently then...’, more lit.: ‘Thus, it’s clear that...”). The tag ὃτι μὲν οὖν...φανερῶν is ubiquitous in Aristotle’s writing. And Aristotle is clearly deploying it in Passage 2 as he usually does: to mark a concluding summary of a point he thinks he’s established or (at least) successfully explained in the preceding discourse.

In connection with Ross’ interpretation of Passage 2 this last point bears special emphasis. In Passage 2, Aristotle is asserting that the previous discussion has successfully ‘made clear’ something—namely, that τὸ èn èιναι μάλιστα ἐστίν κατὰ τὸ ὅνομα ἀφορίζοντι μέτρον τι, καὶ κυριώτατα τοῦ ποσοῦ, εἶτα τοῦ ποιου. So if the latter is to mean something along the lines of ‘being one in the strictest sense, if we define it according to the meaning of the word, is a measure…’, then we’d like to know where in the preceding discussion Aristotle thinks he has established, or explained, or motivated, or given considerations in favor of such a

50 Supposed von Christ’s hypothesis that Aristotle originally wrote: τὸ μέτρον èinà πρῶτον at [1.3] were correct. How, then, would the erroneous α- and β-readings arise? Firstly, a β-scribe would have to change τὸ μέτρον èinà πρῶτον to τὸ μέτρον èinà πρῶτον. So much is not implausible. But when it comes to explaining the appearance of τὸ μέτρον èinà πρῶτον in the α-tradition it’s quite difficult to see how conscious intervention or standard scribal error can get you from an original τὸ μέτρον èinà πρῶτον to τὸ μέτρον èinà πρῶτον. In contrast, on the hypothesis that Aristotle in fact originally wrote the α-exemplar’s τὸ μέτρον èinà πρῶτον it’s easy to account for how τὸ μέτρον èinà πρῶτον would come to be recorded in the β-tradition. Indeed, erroneous changes of case in article + èinà constructions are very common in the β-tradition (see e.g. 1016b18, 1031b6, 1033b4, 1029b18, b19, b21-22).

51 In printing the ἀφορίζοντι in Passage 1, Ross and Jaeger are following the testimony of A’ (the lone β-family manuscript they consult), and rejecting the α-reading δ ἀφορίζονται. From the perspective of Harlfinger’s stemma this proves questionable. Besides A’, there are but two independent β-witnesses extant for Passage 2: the 14th cent. manuscript M and the 15th cent. contaminated manuscript C. At the relevant text location, M reads ἄφορίζονται and C (likely from α-contamination) reads δ ἀφορίζονται.
remarkable claim. The stretch of Iota 1 preceding Passage 1 does nothing of the sort. And neither does the
stretch of Iota 1 that intervenes between Passage 1 and Passage 2. Indeed, as far as I can see, there isn’t
any passage in the corpus that really does this. The portion of Iota 1 that intervenes between Passage 1 and
Passage 2 can be outlined (pretty uncontroversially I think) as follows:

1. 1052b20-31: elaboration of what it means to say that τὸ ἕν is a primitive measure of quantity
   (=it means τὸ ἕν is a foundation for quantitative knowledge); that it is qua counting unit that
   τὸ ἕν is principle of number
2. 1052b31-1053a14: that we deploy τὸ ἕν (a primitive unit-measure) in order to develop quantitative
   knowledge of various domains: lengths, weights, speeds, etc; that in each such case our unit-
   measure must be indivisible in some sense; that not all measures are intrinsically indivisible in
   the same sense
3. 1053a14-30: that to develop knowledge of quantities in any given domain of quantifiables we
   apply a domain-specific unit-measure; that quantitative knowledge of some domains involves
   more than one measure
4. 1053a31-1053b3: the sense in which it’s true to say that episteme and perception are measures,
   or even that ‘man is the measure’ with Protagoras

In our discussion of Passage 1, we noted that Iota 1 advises us not to overlook the difference between ‘What
sorts of things are ἕν?’ and ‘What is it for something to be ἕν?’ (1052b1-3). As the above outline suggests,
and the reader can readily verify, the stretch of text that intervenes between Passage 1 and Passage 2 says
nothing (or next to nothing) about definitional questions at all but much about measures and the sorts of
things called ἕν because they are measures.

Now, to the question of Passage 2’s meaning. Note that the word which Ross translates ‘define’ is the
compound verb ἀφορίζειν. Presumably because of the verb’s root, scholars have tended to follow Ross in
assuming that ἀφορίζειν in Passage 2 means define in the specialized philosophical sense: i.e. ‘giving a logos
of what something is or what something means.’ But the assumption is highly dubious. For this is not the
usual meaning of ἀφορίζειν in the Stagirite or other writers. Aristotle himself has a fairly stable lexicon of
verbs for defining in the philosophical sense (ἐπιγνωστεῖν, ἔνθεσις, σημαίνειν, ἀποικίανα) he doesn’t much devi-
ate from. Moreover, ἀφορίζειν turns out to be used around 50 times in the Corpus Aristotelicum. And a study
of the verb’s other occurrences in Aristotle’s writings reveals that the Stagirite nowhere else uses ἀφορίζειν as
a verb for formulating a (real or nominal) definition.52

When ἀφορίζειν does appear in Plato or Aristotle, it just about always means to mark off (some X) from
(some Y).53 And I suggest that this is precisely what the verb means here. Interpreting the participle person-
ally54 I propose translating Passage 2 as follows:

Passage 2: proposed text and translation

δὴ μὲν οὖν τὸ ἕν εἶναι μᾶλλον ἐστὶν κατὰ τὸ ὅνομα ἀφορίζουσι μέτρον τι, καὶ χαριῶσεται τοῦ ποσοῦ,
ἐὰν τοῦ ποσοῦ, φανερὸν.

Thus, it’s clear that for those who mark off by the name ['one'], to be one is above all a certain meas-
ure—and predominately of quantity, then of quality.

52 My TLG study of ἀφορίζειν in the Corpus Aristotelicum was completed in close collaboration with Fernanda Izidorio. This and the
following paragraph, owe much to her insights.

53 In a bird’s egg the white and the yoke are marked off [ἀφορίσιμον] from one another [ἀπ’ ἀλλήλοις] (GA 757b12); nomos marks off
[aphorize] a special place for the performance of certain religious rites (Pol. 1331a27); in fishes it only the tip of the tongue-organ
that is detached [aphoristai] from the rest of the mouth (PA 661a6); phlegmatics are marked off [aphoristheis] from a wider class
ill patients (Met. 981a10); fishes constitute a unified genus marked off [aphoristai] from [apo] the rest of the water animals (HA
504b14); to understand moderation and self-indulgence we need to mark off [aphthismen] the species of pleasure with which they
are concerned (NE 1117b28); from various possibilities, it cannot be determined [aphorizetal] how air is drawn in (De Resp. 482a19);
without giving any definitions the two sides of the energeia/dunamis distinction have been adequately marked off [aphorismenei]
(Met. 1048b5). In connection with the above, cf. the relevant entry in Bonitz’ Index (1870).

54 Alternatively, ἀφορίζουσι could be taken impersonally (cf. Cat. 3b20). Met. 1002a24). On this construal, Passage 2 should presum-
ably be translated:

Thus, it’s clear that to be one, for things that mark off by the name ['one'], is above all a certain measure—and predomi-
nantly of quantity, then of quality.
Given the semantic closeness of the two verbs, it's natural to connect the active \( \text{ἀφορίζειν} \) in Passage 2 with the passive \( \text{διωρισμένω} \) in Passage 1. I suggest the basic line of thought here is the following. When we call \( X \) \textit{one} [\( \epsilon \nu \)], we might be asserting \( X \)'s holding together in itself. But we also call things \textit{one} to mark them off from others: ‘this is one, that's one, they are two’. In the stretch of Iota 1 between Passage 1 and Passage 2 (1052b20-1053b3) Aristotle has conducted a focused discussion of measures from which it has emerged that there's a special sense of \( \epsilon \nu \) that applies to items like inch and gram—a sense on which \( \tau \circ \epsilon \nu \) names a unit of measure which can give rise to a number by partitioning a totality into determinately many discrete \( \text{διωρισμένω} \). I submit that in Passage 2 Aristotle is merely declaring that 1052b20-1053b3 has successfully elucidated a sense of \( \epsilon \nu \) on which it signifies measure. We remarked above that the construction \( \sigma \tau \text{ μὲν} \ \circ \nu \text{'ς...ἀπεξερεύων} \) is here deployed, as it frequently is, to mark the concluding summary of what Aristotle thinks he has achieved in the preceding discourse. The discussion that precedes Passage 2 doesn't argue that other senses of \( \epsilon \nu \) reduce to this one or even really raise this kind of issue. So simply as a matter of interpreting Passage 2 in context, it seems to me that something like the deflationary reading of the passage given above is to be preferred over the kind of Assimilationist reading embodied in Ross' translation.

6.2 Passage 3 (Met. Δ.6 1016b17-18)

Book Δ of Aristotle's \textit{Metaphysics} concerns things 'said in many ways'. Each of its chapters furnishes a kind of analytical collection of the various senses in which some particular ontologically significant term is used. \textit{Met.} Δ.6, the longest chapter in Δ by far, concerns senses of \( \epsilon \nu \). It's naturally divided into five main sections:

1. 1015b16-36: on per accidens oneness (e.g. that of Socrates and pallor)
2. 1015b36-1016b17: on per se oneness (unity by continuity, by form, etc.)
3. 1016b17-31: on arithmetical oneness, numbers, and quantifiables
4. 1016b31-1017a3: on the senses of \textit{one} distinguished in the theory of dialectic (e.g. one in genus vs. one in species)
5. 1017a3-6: on the senses of \textit{many} opposed to (per se) senses of \textit{one}

The first two of these five sections (1015b16-1016b17) manifestly concern unity and being united.\(^{55}\) Our Passage 3 (1016b17-18) constitutes the first sentence of the third part of Δ.6 in the partition above.

What follows is the Greek text for Passage 3 (1016b17-18) printed by Ross, together with Ross’ translation as printed in the Oxford edition of Aristotle’s complete works:

\textbf{Passage 3: Ross's text with Ross' translation (rev. Barnes)}

\( \tau \circ \delta \ \epsilon \nu \ \text{ἐίναι} \ \text{ἀφορίζῃ} \ \text{τινι} \ \text{ἐστιν} \ \text{ἀριθμὸν} \ \text{ἐίναι} \)

What it is to be one is to be a beginning of number.

In commenting on Passage 3, Ross tells us that Aristotle here 'passes from the enumeration of various kinds of things that are one to a definition of ''one''' (pg. 304 in Vol. 1 of [33], my emphasis).\(^{56}\) But this would seem to be in serious tension with the fact that Aristotle elsewhere refers back to \textit{Met.} Δ.6 as a text explaining how \textit{what to be one is} depend by analogy the meanings of the different 'ones' in the classes other than number.

\( \tau \circ \delta \ \epsilon \nu \ \text{ἐίναι} \ \text{ἀφορίζῃ} \ \text{τινι} \ \text{ἐστιν} \ \text{ἀριθμὸν} \ \text{ἐίναι} \).

(MSS E, J, \( V^{d1}, E^{北} \)) \( \text{ἀφορίζῃ} \ | \ \text{ἀφορίζῃ} \ \text{E}^{北} \)

\( \text{ἀριθμὸν} | \ \text{ἀριθμὸν} \ \text{E}^{北} \ \text{V}^{d1} \)

\(^{55}\) \textit{Met.} Δ.6 1016b6-9, translated and discussed above in Section 3, looks to be the philosophical climax of 1015b16-1016b17.

\(^{56}\) Tarán's (2001) gives a slightly different Assimilationist reading of Passage 3 based on slightly different text-critical assumptions (Tarán favors the \textit{α}-text and rejects Jaeger's proposal of supplying \( \nu \circ \text{o} \circ \text{o} \)). Interpreting Passage 3 Tarán writes (2001: 406):

According to Aristotle, then, the primary meaning of 'one' is to be a principle for some number...From this primary meaning of 'what to be one is' depend by analogy the meanings of the different 'ones' in the classes other than number...
The α- and β-versions of Passage 3 diverge rather sharply. Prima facie, both versions look like ungrammatical gibberish. The reconstructed text for Passage 3 that Ross prints—a text that seems to have been originally proposed by von Christ—is grammatically impeccable Aristotelian Greek. But it is far from obvious that Ross’ interpretation of the linguistically smooth text he prints makes good philosophical sense within either the broader henology of Aristotle’s Metaphysics, or even the local context of Met. Δ.6.

As usual, we can distinguish (a) the version of Passage 3 that Aristotle actually wrote, (b) Ross’ proposed reconstruction of Passage 3 (the text printed in his and von Christ’s editions), and (c) the interpretation Ross assigns to (b). In what follows, I will first argue that given the immediate context of Passage 3 it’s quite unlikely that the intended meaning of (a) was something along the lines of (c). Next, I sketch an alternative interpretation of Passage 3 based on an alternative text-critical proposal somewhat similar to Jaeger’s.

My basic approach to Passage 3 takes its start from an easy observation. While, as we’ve noted, the text of Passage 3 (=1016b17-18) is quite unstable in the manuscript tradition, the block of text which immediately follows Passage 3—in particular, 1016b18-23—is textually stable and is clearly supposed to explain (or provide warrant for) whatever it is that Aristotle did say in Passage 3. (To see this, note the γάρ...οὐ...γάρ particle structure of 1016b18-21).

To determine whether Ross’ textual and interpretive proposals for Passage 3 are plausible, let us then consider 1016b18-23. Now, 1016b18-23 constitutes a highly compressed presentation of a train of thought familiar from Met. Iota 1 and Nu 1. There are different kinds of thing that can be understood quantitatively: harmonic intervals, metric poetry, corporeal magnitudes, the lengths of changes. To get knowledge of the quantities populating these different domains [γένη] of quantifiables we must use one or more domain-specific units of measure. 1016b18-23 argues that these domain-specific units of measure can be viewed as a domain-specific epistemic primitives—foundations for quantitative knowledge in their associated domains. And the evident point of this is to elucidate the sense in which Aristotle thinks it true that τὸ ἐν μέτρῳ [is founda- tion] [ἀριθμή] of number (Nb the οὐ in 1016b20 and that epistemic primitive is one of the recognized senses of ἀριθμή distinguished in Δ.1).

Thus 1016b18-23 which (again) is supposed to somehow justify or explain whatever it is Aristotle is saying in Passage 3. If we are to accept Ross’ text-critical and interpretive proposals on which Passage 3 concerns the essence of oneness quite generally we need a good account of how this could make sense in the immediate context. But I see no plausible way to read 1016b18-23 as an attempt to support any such thesis about the essential core of oneness in general. Pace Ross, these lines do nothing to explain or help motivate the view that the other forms of oneness discussed in Δ.6 all (somehow) reduce to arithmetical oneness. In fact, 1016b18-23 seem rather to have been written in order to support and elaborate upon a far weaker thesis—the claim there’s a type of oneness such that for X to be one in this way is for X to be a foundation of number. Moreover, if the authentic Passage 3 (1016b17-18) was really supposed to mean what Ross takes it to mean, we’d expect it to exercise at least some conceptual influence on the remainder of Δ.6 outside of 1016b17-31’s excursus on arithmetical oneness. But even this expectation isn’t met. The notion of measure, for instance, plays no discernible role in Δ.6 outside of 1016b17-31—not even in the chapter’s concluding remarks on the senses of ‘many’ [τὰ πολλὰ] (1017a3-6).57

We noted above that in contrast to Passage 3 (1016b17-18) the text of 1016b18-23 is textually stable, and moreover that 1016b18-23 is clearly supposed to explain (or provide warrant for) whatever thesis Aristotle means to commit himself to Passage 3. Now, while 1016b18-23 does not support the thesis that Ross takes Passage 3 to assert, it does support the weaker thesis that being a foundation of number is a way of being one. Moreover, the hypothesis that the authentic Passage 3 merely asserted this weaker thesis coheres well with the broader context of Met. Δ.6.58 This suggests we would do well to ask whether Passage 3 can plausibly be interpreted along these lines. And in this connection, it’s striking that if we attend to Alexander of Aphrodisias’ lengthy comments on Met. Δ.6 we find this very kind of reading of Passage 3 (see esp. In Met.

57 Note how closely 1017a3-6 picks up on the framework of 1016b6-11 without appeal to ideas from 1016b17-31.
58 For instance, on the hypothesis in question the above noted discontinuities between 1016b17-31 and the remainder of Δ.6 is hardly surprising.
In contrast to modern scholars like Ross and Tarán, Alexander neither takes Passage 3 to assert that arithmetical oneness is the essence of oneness quite generally, nor does he take Passage 3 to claim for arithmetical oneness any kind of analytical priority over the remaining varieties of oneness. In fact, these latter two readings are not even raised by Alexander as misinterpretations of Passage 3 his students need to be warned against. Alexander discusses 1016b19-23 as if it were clear that Passage 3 asserts that being a foundation of number constitutes merely a way for something to be év. 35

It's far from obvious that the reconstruction of Passage 3 proposed by Ross is correct. And since the publication of Ross' edition, several alternative reconstructions of Passage 3 have been proposed. 36 Most notable is that of Jaeger.

Passage 3: Jaeger's text

While Ross' text stays fairly close to the β-version of Passage 3, what Jaeger prints is identical with the α-version save for his insertion of a τοῦ. Jaeger himself proposes to interpret τοῦ as modifying ἄριθμον (Jaeger 1917). But as Tarán and others have rightly objected, it would be a bit strange for Aristotle to be saying here that τοῦ εἶναι is a foundation not of ἄριθμον but rather of τοῦ ἄριθμον εἶναι. Be this as it may, Jaeger's proposed text need not be interpreted as Jaeger himself suggests. In particular, it seems to be linguistically impossible to interpret Jaeger's text by construing τοῦ with ἄρχην so that the meaning would be: for X to be a one 'is a foundation for something [τοῦ] of its being a number'. But this latter reading is linguistically easier on the following reconstruction which I myself favor.

Passage 3: Proposed text with proposed translation

And to be a one is a foundation for something of its being a number.

Like Jaeger's text for Passage 3, the text I'm proposing is identical with the α-version save for supplying a τοῦ. From a text-genealogical perspective, this reconstruction seems to be no less plausible than Jaeger's or Ross'. 37 And as the translation above shows, my proposed reconstruction is readily interpretable as communicating the weak thesis that a way to be a év is to be a foundation of number. Given the immediate context of Δ.6 and 1016b18–23 in particular, the statement of such a thesis in Passage 3 would make a good deal of sense. So much cannot be said for Ross' interpretation of the text that he proposes, or Jaeger's interpretation of the text he proposes.

To conclude, many alternative reconstructions for the Greek of Passage 3 are possible. What matters most for present purposes is two points. First, there are very good reasons to be skeptical that the Passage 3 Aristotle actually wrote was supposed to say what Ross takes his reconstruction to say: that the essence of oneness quite generally is to be one in the arithmetical sense. Secondly, existing text-critical evidence can be marshaled to support attractive, alternative reconstructions of Passage 3 on which the text effectively says that a way for X to be év is for X to be év in the arithmetical sense.

---

35 Unfortunately, the discussion of Met. Δ.6 in Alexander’s commentary fails to make clear precisely what Greek text Alexander read for Passage 3 in the 2nd cent. C.E.—i.e. what version of Passage 3 he based his interpretation on. Alexander doesn’t give us a lemma that covers Passage 3 (on the authenticity of the lemmata in Alexander’s Metaphysics commentary see the careful study of Kotwick 2016). However, the commentary does give us what looks to be a paraphrase: προστάθησα τοις εἰρήμενοι καθ οτι τοῦ εἶναι τὸ ἄρχην ἄριθμον εἶναι ἔστιν (In Met. 368,15–16). (On the inadequacy of Hayduck 1891 as an edition of Alexander’s commentary see Goltis 2016b).

36 For a rather swift discussion of some options see the paper of Tarán mentioned in note 56.

37 For, on the hypothesis that ἄρχην τοῦ εἶστιν τοῦ ἄριθμου εἶναι is what Aristotle originally wrote, the erroneous emergence of the α- and β-texts for 1016b18 is readily intelligible. One easy genealogy is:

\[ \text{ἄρχην} \text{ τοῦ εἶστιν ἄριθμῳ ἔστιν} \]

\[ \text{ἄρχην} \text{ τοῦ ἐστὶν ἄριθμῳ ἔστιν} \]

\[ \text{ἄρχην} \text{ τοῦ ἐστὶν ἄριθμῳ ἔστιν} \text{(β-version)} \]

Commenting on Met. Δ.6, Alexander paraphrases Passage 3: τοῦ εἶναι τὸ ἄρχην ἄριθμον ἔστιν (In Met. 368,15–16). In light of the work of Primavesi and Kotwick, the erroneous emergence of the β-text might also be accounted for by positing the influence of this paraphrase in production of β.
7 Conclusion

Aristotle manifestly views ontological oneness as a central *explanandum* for positive First Philosophical research. The explication of its causes and foundations is, he thinks, a component of genuine *sophia*—the metaphysical science which First Philosophy seeks. Discussions of arithmetical oneness, in contrast, seem to enter into Aristotle’s *Metaphysics* primarily for negative reasons connected to the Stagirite’s rejection of erroneous First Philosophical *explanantia* posited by his contemporaries. A mastery of the ‘philosophy of number’, I submit, is simply not a component of *sophia* as Aristotle understands it.

It will be noted that I’ve not adduced any particular Aristotelian text whose very point is to elucidate the distinction between ontological and arithmetical oneness. 62 This is correct. For, what I’ve effectively been arguing is that if we closely attend to what Aristotle says about ontological and arithmetical oneness, it becomes difficult to make sense of his views without attributing to him a sharp theory-internal distinction between the two. The case is similar, I suggest, to that of *eidos* in the sense of *species* (opposed to individual and genus) and *eidos* in the sense of *form* (opposed to matter and matter-form composite). While there is no text in which Aristotle himself formulates the species/form distinction, we today find near universal agreement on attributing to Aristotle a theory-internal distinction between species and forms. What brought scholars to insist on this distinction in interpreting Aristotle was careful study of the philosopher’s diverse uses of *eidos*-concepts. I contend that analogous considerations strongly motivate insisting on a (theory-internal) unity/uniqueness/unit-hood distinction in Aristotle, and denying that Aristotle identifies ontological and arithmetical oneness. Ignoring these latter distinctions, no less than ignoring the species/form distinction, has been and will continue to be a source of significant mistakes.

**Competing Interests**

The author has no competing interests to declare.

**References**

Aertsen, J. 2012. Medieval philosophy as transcendental thought: From Philip the Chancellor (ca. 1225) to Francisco Suárez. Leiden: Brill. DOI: https://doi.org/10.1163/9789004225855

Arznzen, R. 2010. On Aristotle’s *Metaphysics* an annotated translation of the so-called Epitome of Averroes. Berlin: Walter de Gruyter.

Barnes, J. 1984. Complete works of Aristotle: The revised Oxford translation. 1–2. Princeton: Princeton University Press.

Bernardinello, S. 1970. Eliminatio codicum della *Metaphysica* di Aristotele. Padova: Antenore.

Bonitz, H. 1848. Aristotelis *Metaphysica* recognovit et enarravit H. Bonitz. Bonn: Ad Marcus.

Bonitz, H. 1849. Commentarius in Aristotelis *Metaphysicam*. Bonn: Ad Marcus.

Bonitz, H. 1870. Index Aristotelicus. Berlin: Reimer.

Bouyges, M. 1952. Averroès, Tafsîr mâ buat-Tabi’ah. Texte arabe inédit, établi par Maurice Bouyges, S. J. Beyrouth: Dar El-Machreq.

Burnyeat, M. 1990. The *Theaetetus* of Plato with a translation of Plato’s *Theaetetus* by M.J. Levett revised by Myles Burnyeat, Indianapolis: Hackett.

Bydén, B. 2005. Some remarks on the text of Aristotle’s *Metaphysics*. *The Classical Quarterly*, 55(1): 105–120. DOI: https://doi.org/10.1093/cq/bmi007

Castelli, L.M. 2010. Problems and paradigms of unity: Aristotle’s accounts of the one. Sankt Augustin: Academia Verlag.

Fazzo, S. 2016. Aristotle’s *Metaphysics*—current research to reconcile two branches of the tradition. *Archiv für Geschichte der Philosophie*, 98(4): 433–457. DOI: https://doi.org/10.1515/agph-2016-0020

Frede, M. 1987. *Essays in Ancient Philosophy*. Minneapolis: University of Minnesota Press.

Golitsis, P. 2016a. Editing Aristotle’s *Metaphysics*: A response to Sivia Fazzo’s critical appraisal of Oliver Primavesi’s edition of *Metaphysics* Alpha. *Archiv für Geschichte der Philosophie*, 98(4): 458–473. DOI: https://doi.org/10.1515/agph-2016-0021

Golitsis, P. 2016b. The manuscript tradition of Alexander of Aphrodisias’ commentary on Aristotle’s *Metaphysics*: towards a new critical edition. *Revue d’Histoire des Textes*, 11: 55–94. DOI: https://doi.org/10.1484/J.RHT.5.110486

---

62 Arguably Met. iota 6 1057a12-17 and M.8 1084b13-32 come close, but their interpretation is a complex matter.
Harlfinger, D. 1979. Zur Überlieferungsgeschichte der Metaphysik. In: Études sur la Métaphysique d'Aristote. Actes du VIe Symposium Aristotelicum, Aubenque, P (ed.), 7–33. Paris: Vrin.

Hayduck, M. 1891. Alexandri Aphrodisiensis in Aristotelis Metaphysicam Commentaria. Vol. I of Commentaria in Aristotellem Graeca. Berlin: Reimer.

Jaeger, W. 1917. Emendationen zur Aristotelischen Metaphysik A – Δ. Hermes LIII, 481–519.

Jaeger, W. 1957. Aristotelis Metaphysica recognovit brevique adnotatione critica instruxit W. Jaeger. Oxford: Clarendon Press.

Kotwick, M. 2016. Alexander of Aphrodisias and the Text of Aristotle’s Metaphysics. Berkeley: California Classical Studies.

Marmura, ME. 2005. Avicenna. The Metaphysics of The Healing: A Parallel English-Arabic Text translated, introduced, and annotated by Michael E. Marmura. Provo: Brigham Young University Press.

Menn, S. 2011. Fārābī in the reception of Avicenna’s metaphysics: Averroes against Avicenna on being and unity. In: The Arabic, Hebrew and Latin reception of Avicenna’s Metaphysics, Hasse, DN and Bertolacci, A (eds.), 51–96. Berlin: Walter de Gruyter. DOI: https://doi.org/10.1515/9783110215762.51

Menn, S. work-in-progress. The Aim and Argument of Aristotle’s Metaphysics.

Primavesi, O. 2012. Aristotle Metaphysics A: A new critical edition with introduction. In: Aristotle’s Metaphysics Alpha: Symposium Aristotelicum, Steel, C (ed.), 385–516. Oxford: Oxford University Press.

Ross, WD. 1924. Aristotle’s Metaphysics: A Revised Text and Commentary, 1–2. Oxford: Clarendon Press.

Sattler, B. 2017. Aristotle’s measurement dilemma. Oxford Studies in Ancient Philosophy, 52: 257–301. DOI: https://doi.org/10.1093/oso/9780198805762.003.0007

Tarán, L. 2001. Aristotle Metaphysics Δ 6, 1016b17-21, Collected Papers: 1962–1999. Brill: Leiden.

Von Christ, W. 1886. Aristotelis Metaphysica recognovit W. Christ, Teubner, Leipzig.