
What is Matter in Aristotle's Hylomorphism?

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Abstract

Aristotle's notion of matter has been seen either as unintelligible, it being some mysterious potential entity that is nothing in its own right, or as simply the notion of an everyday object. The latter is the common assumption in contemporary approaches to hylomorphism, but as has been pointed out, especially by scholars with a background in ancient philosophy, if we conceive of matter as an object itself we cannot account for the unity of hylomorphic substances. Thus, they assume that a hylomorphic substance is an essential unity and matter not a constituent at all. This solution to the problem of unity, however, brings us back to the mysterious notion of matter. For these reasons, I will revisit Aristotle's conception of matter in this paper. I will argue that an understanding of form as a cause of being requires that matter be an independent constituent of the individual substance. However, I agree that the conception of matter as an individual object with an essence makes it impossible to solve the problem of unity. We therefore need to take seriously Aristotle's assertion that matter is nothing in its own right and not an individual. By denying that matter is an individual, Aristotle does not introduce a mysterious entity, nor does he deny that it can be identified independently of the whole; instead, matter for Aristotle is an irreducible plurality, and this explains why it is not an individual and has no essence. I will conclude with some observations on how this gives rise to two competing versions of hylomorphic constitution.

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Introduction

Aristotle's hylomorphism is *en vogue* again, making a comeback as an alternative to Classical Extensional Mereology (CEM). Originally, CEM was proposed as an alternative to set theory, but it soon found its way into ontology and metaphysics.¹ However, a growing number of scholars have argued that CEM cannot account for the fact that a whole is not merely the sum of its parts (see Johnston 2002; 2006; Koslicki 2008). Hence, in addition to the material parts of an object, one needs to recognise a structuring principle. In Aristotle's hylomorphism, we find precisely this – the form. Forms explain why objects are proper wholes and more than the sum of their material parts. Accordingly, much of the literature has focused on what a form *is*. Is it a structure, a relation, an 'office', or is it *sui generis*?² Yet, whatever precisely it may be, many contemporary metaphysicians believe that Aristotle's notion of form deserves a revival.

By contrast, Aristotle's account of matter – the notion corresponding to form – did not see such a revival. Some might say that this is appropriate because Aristotle's notion of matter is unintelligible, it being some mysterious potential entity that is nothing in its own right. Thus, Burnyeat argued that functionalist interpretations of Aristotle's philosophy of mind are untenable because Aristotle's conception of matter has to be discarded (Burnyeat 1992). Being aware of this problem, contemporary defenders of hylomorphism typically assume that matter is itself an individual object with an essence like the whole that it constitutes (see, e.g., Koslicki 2018; Sattig 2015). This assumption, however, becomes problematic when we think of the unity of a hylomorphic object. One central and indispensable stricture on any version of hylomorphism is that it must distinguish between a related whole and a substance; that is, it should provide the conceptual tools to explain why, for example, something is a table, as opposed to some particles arranged table-wise. But, as scholars, especially those with a background in ancient philosophy, have pointed out, this seems impossible if we conceive of matter as an individual object with an essence, for it violates Aristotle's principle that for a substance to be a unity it cannot be constituted of substances (*Met.* 1039a7–9). Thus, they argue that matter is not an ontologically independent constituent at all, and that a hylomorphic substance is an essential unity. Matter, they say, is either an abstract entity (Scaltsas 1994a; 1994b), or it exists as a property in the whole (Gill 1991; 2010), or it is just the substance

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in potentiality (Kosman 1984; 1987; Rorty 1973). This solution to the problem of unity, however, brings us back to the mysterious notion of matter. Thus, as long as we have no clear understanding of what matter is, we cannot adequately understand hylomorphism as a whole.

For these reasons, I will revisit Aristotle's conception of matter in this paper. Relying on the Causal-Explanatory Model of substance in *Metaphysics Z 17*, I will argue that an understanding of form as a cause of being requires that matter be an independent constituent. However, I agree with those who point out that the conception of matter as an individual with an essence makes it impossible to solve the problem of unity. We therefore need to take seriously Aristotle's assertion that matter is nothing in its own right and not an individual. By denying that matter is an individual, Aristotle does not introduce a mysterious entity, nor does he deny that it can be identified independently of the whole. Instead, as an argument in *Z 17* shows, matter for Aristotle is an irreducible plurality, and this explains why it is not an individual and has no essence. I will conclude with some observations on how this gives rise to two competing versions of hylomorphic constitution.

I. The Form as Cause and the Independence of Matter

On my view, form and matter are ontologically distinct constituents of a hylomorphic substance. Although it has been doubted whether Aristotle advocated this version of hylomorphism, it is what he seems to suggest in *Metaphysics Z 17*.³ In this chapter, Aristotle explains that the question of *what* a substance is must be understood as the question of *why* some matter constitutes a hylomorphic substance (*Met.* 1041a9–11; 1041b7–9). For instance, the question of what a house is must be understood as the question of why some bricks and stones constitute a house. In answering this question, one specifies the cause of being of the house – namely, the form. In our example, the form is an arrangement for the sake of shelter, which explains *why* bricks and stones constitute a house.⁴ With this, we have also explained *what* a house is: it is bricks and stones arranged for the sake of shelter (*Met.* 1043a8–9). Following recent usage, I will call this the Causal-Explanatory Model:⁵

The Causal-Explanatory Model: The form F is the cause of M's constituting S.⁶

A cause of being (*aition tou einai*) is not a cause in a Humean sense, but is rather the metaphysical explanation of why some material parts constitute a substance. For our purposes, the following features of this schema are crucial. First, the cause explains why the matter constitutes a *substance*, not why an attribute belongs to a substance. As Furth (1988: 198) memorably puts it: 'The form *shapes* the matter *up* into a determinate individual.' If some material parts are informed, they do not stand in a merely accidental relation to one another; instead they constitute a substance that inherits its material characteristics from the matter. In this sense, the form explains why the wood is a wooden table, as opposed to some wood arranged table-wise. This fact will become important when we turn to the question of whether matter has essence. For, as I shall argue, if matter had an essence, form could not give further essential determination to it.

Second, the schema implies that the matter of X must be independent of the form of X. If the matter of X, taken in itself, already had the form of X, it would make nonsense of the claim that forms are causes.⁷ As Aristotle emphasises in Z 17, the question 'Why is an eclipse an eclipse?' is ill-posed, since everything is what it is and there is no deeper explanation of this fact. For this reason, we must find a subject that is independent of the cause. In the example of the (lunar) eclipse, we must ask 'Why is the moon losing its light?' The subject, the moon, is independent of both the predicate (loss of light) and the cause (the interposition of the earth). As noted above, what underlies in the case of substances is not itself a composite substance, like the moon, but matter (*Met.* 1038b5–6; 1044b8–12). However, the introduction of matter follows the same rationale: matter must be an independently identifiable subject so that we can meaningfully ask after the cause of matter's constituting a substance. If we could not refer to the matter independently of the form, or if the matter were already informed, there could be no metaphysical *explanation* of why the matter constitutes the substance.⁸

Aristotle's practice confirms this. Later in Z 17, when he argues that no whole is identical to its material parts, he relies on the argument that the material parts can exist independently of the whole. For, as he says, 'When they – for example, the flesh and the syllable – are dissolved they no longer exist, whereas the phonetic elements do exist, and so do fire and earth' (*Met.* 1041b14–16). From this, he will ultimately conclude that the whole must have another constituent, which is not a material part, but 'a cause of this being flesh and this being a syllable' (*Met.* 1041b26–27). Again, if the matter were not independent of the form,

why should we assume that the whole and its parts are not identical? If the letters *A* and *B* were already a syllable in themselves, no further constituent would be missing. If the matter were ‘virtually the same as the form’ (Halper 1989: 193), Aristotle’s argument that the form is a cause of unity and being would not get off the ground, since the assumption of matter’s independence is the crucial premise in this argument, and discarding it would undermine hylomorphism as a whole.

This analysis, however, leads to a question about functional parts that fall under the scope of the so-called homonymy principle. According to this principle, a severed hand, for example, is not a hand, since it cannot carry out the function of a hand (see *Met.* 1036b30–32; *De An.* 412b17–27). This might be taken to imply that the functional parts are not independent of the form because to be what they are, they must be informed, and that they cannot exist without actually being a part of a whole. If this is correct, functional parts are not in the scope of the causal-explanatory analysis in *Z* 17. For, as we have seen, this analysis presupposes that the matter of *X* can exist, and is identifiable, independently of the form of *X*. If the organic body – the legs, arms, head, and so on – is already ensouled, the organic body is not independent in the relevant way. For the purposes of this paper, I will not take a stance on whether functional parts are independent in the relevant way. Instead, I assume only that there is matter, at some level, that exists independently of the substance and is in the scope of the causal-explanatory scheme. In our example, I would posit that flesh can survive the death of an animal, as Aristotle says in *Met.* 1035a17–20.

Some scholars deny that flesh, or any level of matter in the organism, is independent of the form.⁹ For example, *Meteor.* IV 12 apparently suggests that flesh is functionally defined and cannot exist independently of a living being. This leads us into one of the longest-standing debates surrounding hylomorphism, Ackrill’s problem. Ackrill (1972) argued that Aristotle is committed to two incompatible claims: (1) The matter can exist without the composite substance and (2) The matter of living being is necessarily ensouled. I cannot do justice to this debate here, except to note the following: First, *Metaphysics* *Z* 17 is no outlier in implying that the matter of *X* is independent of the form of *X*. Aristotle commits himself to it also in *Ph.* I, *Met.* *Z* 7–9, and *Λ* 1–3.¹⁰ Second, matter’s independence has been defended even in biological contexts. For example, in her interpretation of *Meteor.* IV 12, Gill (2014) distinguishes between live flesh, which is

functionally defined, and dead flesh, which continues to exist after the death of the animal. In fact, when saying that flesh is *for the sake* of the organism, Aristotle may mean only that facts about the organism explain the presence of flesh in it. In other words, it is an instance of hypothetical necessity: a hand has a certain function, and this function requires that it be made of a certain matter, just as the function of a saw hypothetically necessitates that it be made of iron.¹¹ In his study of Ackrill's problem and Aristotle's embryology, Carraro (2017) has argued that the organic body exists before it acquires the soul. Of course, none of this is decisive, and my aim is not to defend these interpretations in detail. But they do show that the account of *Metaphysics* Z 17, on which matter is independent of the form, can be aligned with what Aristotle says elsewhere.

However, if X's matter is independent of the form of X, it is difficult to explain how the hylomorphic substance can be a unity. The unity of the hylomorphic composite requires that matter is no unified substance itself. For if it were, the hylomorphic substance would be *two* substances, which goes against Aristotle's dictum that no substance can consist of substance (see *Met.* 1039a3–4). For this reason, many interpreters have denied that matter is independent of form, some claiming that the matter gets reidentified in the hylomorphic composite (see Marmodoro 2013; Scaltsas 1994b), others that matter exists as a property in the hylomorphic composite (see Gill 2010), or that matter as potential being and form as actual being are somehow the same (see Halper 1989; Kosman 1987; Rorty 1973). Although they differ in detail, they all assume that matter and form are essential unities. Interpreters who posit that X's matter is independent of X's form, on the other hand, either neglect the unity problem in the form I have stated it, or they believe that the unity must be grounded solely in the form.¹² I agree with the second camp on the independence of matter, but I also agree with the first camp that the unity of a substance cannot be grounded solely in the form. I do not mean by this that matter is a principle of unity. My claim is rather that if the matter has an essence independently of form, we cannot account for the unity of the composite substance.

My focus in this paper is on the notion of matter, and the task is therefore to explain how matter can be independent of form and yet have no essence. I will base my analysis on Aristotle's claim that matter is not an individual object with an essence (this is how I render the Greek term *tode ti*, which I will defend below). In section II, I will show that matter is a heap, and in section III, I will argue that this explains

why the matter is not an individual and the substance does consist of substances. This account of matter as a heap can help us to account for the unity of substance.¹³ (I do not want to suggest, though, that this is the full explanation of the unity of substance. For this, one would have to give an account of form and, importantly, of the sense in which matter is potentially the substance). I will end by discussing how this gives rise to two competing versions of plural composition.

II. Matter and Plurality

As introduced in the Causal-Explanatory Model above, hylomorphic constitution is the relation that holds between the matter and the substance of which it is the matter. On its own, this model is neutral with respect to the question of whether constitution is singular, plural, or can be both.¹⁴ Most commentators on Aristotle do not address this question explicitly.¹⁵ Judging by Aristotle's examples, it seems that it can be both (bronze – statue; bricks and stones – house; body – soul). I will argue, however, that the Causal-Explanatory Model implies that hylomorphic constitution is always plural. To see why, it is instructive to link the two apparently disparate parts of Z 17.¹⁶ In the first, Aristotle explains that the form is a cause of being (1041a9–b9); in the second, he argues that it is also a cause of unity (1041b11–33). Thus, a form explains not only why the matter constitutes a substance, but also why it is a unity. Consequently, the account of why matter constitutes a substance is an account of why *several* material constituents are unified in such a way as to constitute an individual substance:

Since what is composed of something in such a way that the totality is one, not like a heap but like a syllable – the syllable is not its phonetic elements, *BA* is not the same as *B* and *A*. (*Met.* 1041b11–13; all translations of the *Metaphysics* are by Reeve (2016), often modified)

Aristotle addresses the problem of what accounts for the difference between the syllable, which is a unified whole, and the letters, which are a heap (*sōros*). By calling the matter a heap, Aristotle likens it to a plurality, and he will answer that the form explains why the several material parts constitute a single and unified substance (I will say more on the notion of a heap below). Typically, the problem of the unity of a substance is posed in terms of the unity of form and matter; however, the quoted passage suggests that Aristotle is interested primarily in the question of what makes the several material

parts one.¹⁷ Hylomorphic substances are composites not merely in that they have form and matter as their constituents but also in that they consist of a plurality of material parts.¹⁸ I will argue that the question of what the cause of being and unity is, arises *only* in the case of several material parts.

We find an explicit argument for the principle of plural composition in Z 17. If the substance did not consist of a plurality of material parts, it would not have a form but would be identical to its sole material part:

And if it is made 'out of' (*ek*) an element, clearly it will not be 'out of' one but more than one, or else [if of only one] that one will be the thing itself. (*Met.* 1041b22–23)

If there were only one atomic part, the whole would be identical to it, and a hylomorphic composite would not be possible. This is not the truism that, if there is only one part, the question of why several parts constitute a whole does not arise; rather, Aristotle is making the significant claim that any whole that has a principle of unity must have several material parts. Nor does he rely on Weak Supplementation, according to which an object which has a proper part must have at least another proper part disjoint from it, and conclude that a hylomorphic substance must have matter and form as its parts.¹⁹ For, in the context of Z 17, the expression 'out of' (*ek*) designates specifically material constitution; in the language of Z 17, if *x* is 'out of' *y* and *z*, *y* and *z* are elements, i.e., material constituents. We can see this if we reflect on the fact that Aristotle goes on to say that, if something is 'out of' several parts, the question of its unity arises. This question would not occur if we allowed that the object is 'out of' matter and form, but only if it is 'out of' material constituents. The very idea of the regress argument in Z 17 is that form is the principle that unites the material constituents a whole is 'out of' without itself being one of those constituents. Thus, Aristotle's claim must be that the existence of a hylomorphic composite depends on a plurality of elements: for a substance to be constituted by matter at all, it must be constituted by a plurality of material constituents. The form unifies the material constituents into a whole and thereby explains what it is for them to constitute the substance.

Unfortunately, the argument is not quite as neat as I presented it. For in the quoted lines, Aristotle argues that form is not an element. That is to say, the referent of 'it' is the supposed principle of unity that explains why *A* and *B* are not identical to the syllable *BA*. Thus, one might object that we can conclude only that form is not constituted

by elements. This objection, however, cannot be right. Here is why: Aristotle has established that the syllable is not identical to *A* and *B*. So, there is a missing item, let it be *C*, and the question is whether *C* is an element or whether it is constituted by elements. In the first case, the same question would arise again, that is, why *A*, *B*, and *C* are a whole and not a heap. In the second case – and this is what is addressed in the quoted passage – *C* must be constituted by several elements, $C_{1\dots n}$. However, if *C* is constituted by $C_{1\dots n}$, we can ask again why $C_{1\dots n}$ are a unity, and what their principle of unity is. Aristotle concludes that the missing item is not an element at all, but a principle of unity.

Now let us look more closely at the option that *C* is constituted solely by C_1 . This option is ruled out because it is not a case of constitution at all but of identity. Thus, *C* itself would need no principle of unity. The problem, of course, is that even though *C* itself needs no principle of unity, *C* cannot be the principle of unity for *A* and *B* because it is itself an element just like *A* and *B*. However, the same argument would apply to *A* and *B*, taken on their own. If a whole were constituted solely by *A*, it would be identical to *A* and hence would need no principle of unity. The argument is completely general, and it must be: its point is to establish that the missing item is neither an element nor constituted by elements but a principle of unity. But a principle of unity can exist only if the whole is constituted by several material parts.

Bostock (1994: 245) rejects the principle of plural composition by pointing to Aristotle's examples of a brazen ring and a threshold. Both appear to be constituted from one material part only, the bronze and the wooden beam, respectively. On closer inspection, however, we will see that these are not counterexamples. A threshold is not a hylomorphic composite in the first place, but an accidental composite like thunder and eclipse; as Aristotle says explicitly, the threshold is not a substance because its 'form' is not a substantial form (*Met.* 1043a4–7). Of course, a syllable (the example I relied upon) is also not a substance, so one might wonder how effective my reply is. The crucial difference between these examples is that Aristotle is not using the threshold to illuminate the ontology of hylomorphic substances. Instead, when he introduces the threshold example in *Metaphysics* H 2, his point is that the causes of being are found in all categories, not only in the category substance:

It is evident, however, that there are many differentiae. (a) Some things are said to be, for example, due to the mode of combination of their matter, like those said to be due to blending (such as honey-water), or due to tying (such as a bundle), or due to gluing (such as a book), or due to nailing (such as a box), others due to more than one of these. (b) Others are said to be due to

position for example, a threshold or a lintel (for these differ due to how they are placed); (c) others due to time [...]. (*Met.* 1042b15–20)

Items (a), (b), and (c) are grouped according to their category, and the threshold is an example of an accidental composite whose cause of being is in the category of location. However, all examples of items in the category of substance in group (a) have a plurality of parts.²⁰ Thus, even though none of his examples (a book, a casket, etc.) is a substance, Aristotle chooses them precisely because they illustrate the point that substances are composed of several material parts.

The example of the brazen ring is more interesting, for it reveals that in the metaphysical context of hylomorphism, Aristotle treats masses like heaps, too.²¹ Typically, Aristotle uses the notion of a heap (*sōros*) to contrast a plurality of parts to an individual substance:

For of all things that have several parts and where the totality of them is not like a heap, but the whole is something beyond the parts, there is some cause of it. (*Met.* 1045a8–10. See also 1041b11–13, quoted above)

According to this usage, a heap is a mere plurality of parts that lacks a cause of unity ~~and being~~. An individual substance, on the other hand, has a cause which unites the plurality of parts into a whole, where the parts are a genuine plurality. Aristotle's examples are the letters A and B, fire and earth, bricks and stones. Moreover, he criticises the Platonic conception of numbers as substances on the grounds that Platonists treat numbers as heaps of monads (*Met.* 1044a4–5; 1084b21–22). In all these cases, there is a clear sense in which there are *several* parts that make up the heap. For this reason, heaps have been interpreted as mereological sums.²² However, in the context of hylomorphism, he applies the notion of a heap to masses, too, although, strictly speaking, a mass is not a genuine plurality.²³

The reason for this is presumably that unless we use a dummy sortal such as *one* piece, the mass of bronze can be seen as many masses. Suppose we divide the bronze: it would still be some bronze, and indeed the same mass of bronze, but clearly it would not be a single thing. If we had decided to melt down the ring, we could have created two smaller rings from the same bronze. The point is that the bronze in itself is not a single thing. It has no principle of unity that makes it *one* thing as opposed to *many*. That this is Aristotle's position is evident from the following passage:

It is evident that even of the things that seem to be substances, most are capacities, whether the parts of animals (for none of them exists when it has been separated, and whenever they are separated they all exist only as

matter) or earth, fire, and air (for none of them is one, but instead they are like a heap until they are concocted and some one thing comes to be from them). (*Met.* 1040b5–10)

Aristotle argues here against the common assumption that the parts of animals and the elements are substances. A hand, for example, is not a substance, since it cannot exist independently of the human.²⁴ But what about the elements? The elements exist on their own and not merely as parts of a larger whole. Nevertheless, he denies that they are substances because they are not unities but heaps. In calling the elements ‘heaps’, Aristotle suggests that no portion of an element is an individual with a principle of unity. This, again, indicates that any mass of water can be seen as many masses of water. Aristotle expresses this point by saying that water is an ‘all’:

Things to which ‘all’ is applied as to one thing are said to be ‘every’, ‘every’ being applied to them as divided up – ‘all this number’; but ‘every one of these units’. (*Met.* 1024a6–10)

We can speak of all this water, thereby suggesting that we have a single portion of water before us, e.g., one glass of water. However, we can also apply ‘every’ to the *same* portion of water, thereby suggesting that we have a plurality of portions of water before us, e.g., 20 tablespoons of water. (Note that Aristotle does not consider the possibility that the water is neither one nor many.)²⁵ I am inclined to express this by saying, in modern parlance, that ‘some water’ contains an irreducible plural reference so that a mass is a kind of plurality.²⁶ Yet, even if one disagrees with this and assumes that the category of heap encompasses two distinct kinds of entity – genuine pluralities are always many, and continuous masses that are one and many –, the basic intuition behind treating both genuine pluralities and masses as heaps is sound: they possess no internal principle of unity.

Thus, we can see that Bostock’s counterexample of the bronze does not hold up and that masses also fall under the principle of plural composition. In itself, the bronze is not *one* thing, and its unity derives solely from the statue’s form. However, this consideration also supports the stronger conclusion that the elements, like masses more generally, are not hylomorphic composites. Although the elements are the matter out of which substances are ‘concocted’, they are in themselves not substances because they are heaps, i.e., have no principle of unity.²⁷ This might be puzzling because the elements appear to have natures. Thus, one could agree that the elements are not unities in the required sense but still insist that they have determinate natures, making them

hylomorphic compounds. My reply is twofold: first, it is undoubtedly true that the elements, as opposed to artefacts, have a nature because their motions are natural. But although the elements' motions are natural, this does not imply that they have a substantial form. In this spirit, Sokolowski has argued that the elemental contraries (hot-cold, wet-dry) are not substantial forms because they 'react on one another with blind mechanical force, with no teleology or meaning' (Sokolowski 1970, 284). Second, and more importantly, the notion of form or essence is inextricably tied to the notion of unity. I will turn to this point now.

III. Matter and Essence

The fact that matter is a heap explains why the matter is not an individual with an essence. Above, I have assumed an intuitive understanding of these notions, but to understand what exactly Aristotle denies, let us pause for a moment and consider the technical Aristotelian usage of them. The Greek term, corresponding to an individual object with essence, is a 'this somewhat' (*tode ti*). This notion has been subject to a great deal of scholarly controversy, and I do not attempt to give a complete analysis of it.²⁸ For our purposes, I want to establish that an essence is the ontological correlate of a definition, and a this somewhat is an individual that has an essence.²⁹ In my translation of *tode ti* as 'this somewhat', I follow the construction of Smith, who argues that both *tode* (this) and *ti* (somewhat) are general, so that a *tode ti* is 'a placed and dated specimen of some definable and substantial nature' (Smith 1921: 19). The first component, individuality, is suggested by the *Categories*, where Aristotle states that being a this somewhat is a mark of primary substances because they are 'indivisible and numerically one' (*Cat.* 3b12).³⁰ The second component is the link between being a this somewhat and having a definable essence. Aristotle establishes it in *Metaphysics Z 4*, and his discussion reveals how the question of essence relates to the question of unity:

But what about the cloak? Is the being for it an essence at all? Or not? For the essence is just what something is. But when one thing is said of another, it is not just a this – for example, the pale human is not just a this somewhat if indeed the 'this' belongs only to substances. And so there will be an essence only of those things whose account is a definition. (*Met.* 1030a2–7)

In *Z 4*, Aristotle states that the essence is what something is by itself. To get a more precise grasp of this notion and the related question of which things have an essence, he asks whether a pale human has

an essence. Aristotle proposes to let 'cloak' signify pale human in order to forestall the misunderstanding that 'pale human' because it is linguistically complex, cannot have an essence. Here the quoted passage begins, and we must understand Aristotle as asking whether a pale human has an essence. Surprisingly, the answer is no, because a pale human is not a this somewhat, and only a this somewhat has an essence. The reason for this is that pale human involves an ontological predication of pallor of human. A pale human is ontologically complex in that it has two essences – the essence of pallor and the essence of human. So, it turns out that, strictly speaking, a pale human does not have an essence because it is not a unity. Although much more could be said about this difficult passage, for present purposes, the salient point is that a this somewhat must be an individual with an essence, which is expressed in a definition.³¹ Only individuals have essences in the strict sense, and whatever has an essence in the strict sense is an individual.

This is, I propose, what Aristotle means when he says that matter is not a this somewhat.³² The matter, as such, is not an individual and has no essence.³³ There is no essence or form that matter has (in actuality), where having the form implies being a strictly definable individual. It is worth emphasising that, with this, Aristotle does not deny that matter can be independently identified and, in this sense, is *something*. A heap has identity conditions; we can ascertain whether it is the same heap or not. Similarly, we can identify the bronze and can tell that it is a ratio of tin and copper. Aristotle's point is that the matter is not a this somewhat, not an individual with an essence.³⁴ We can see this from the example of the pale human. A pale human does not have an essence and is not a this somewhat. Yet, there clearly is a sense in which a pale human is identifiable, and we might even give an account of pale human by saying that a pale human is a human who has the property of pallor. Hence, it is misleading to say, as, for example, Frede and Patzig do, that matter is not a 'thing' (*Gegenstand*; Frede and Patzig 1988:1: 39). The notion of thing (*Gegenstand*) is broader than the notion of a this somewhat and a substance. Aristotle denies that matter is an individual with a definable essence, but, insofar as we are prepared to call a pile of bricks and stones, some bronze, or the *A* and *B* taken together, a 'thing', matter is a thing. The issue is not whether matter is identifiable. Indeed, in a sense, we can say both what matter and what accidental composites are. The question is whether matter has an essence and a definition in the strict sense. Here the answer is that it does not, because a form is a cause of being *and* unity, and only highly unified beings have essences (see Witt 1989: 120). Thus, the fact that matter in itself is a heap explains

why matter is not a this somewhat, an individual with an essence. Aristotle makes the connection explicit in the following passage: 1

Matter [...] is a 'this somewhat' merely by appearing so (*tō phainesthai*³⁵) (for all things that are characterised by contact and not by organic unity are matter and substratum). (*Met.* 1070a9–11) 5

The material parts are not a this somewhat because they are not united in the right way. They might *appear* to be an individual object if they are in contact, but unless they are unified by a form, they are not. They are a heap and do not constitute anything. Aristotle's explanation, and especially his use of the notion of 'appearance' (*phainesthai*), has caused puzzlement among interpreters, but I think we can see what Aristotle means by this from a passage in *Metaphysics* Δ: 10

Further, while in a way we say that anything is one if it is a quantity and continuous, in another way, we do not say so if it is not some sort of whole, that is, if the form it possesses is not one. For example, if we saw the parts of a shoe randomly put together, we would not say that it was one in a similar way (unless we did so because of its continuity), but only if they were put together in such a way as to be a shoe, that is, so as to already possess some form that is one. (*Met.* 1016b11–16) 15

Aristotle's example has an intuitive appeal. You can put the parts of a shoe together in whatever way you like, but, in an important sense, you have not created a substance, a whole, as Aristotle remarks. Being a whole implies that the object in question has a form, which explains why the parts constitute a single determinate thing. The parts of the shoe must be put together *in the right way* to compose a shoe. If they are not put together in this way, they remain just this: parts lying around. These parts are one thing only in the sense that they are in contact; that is, they have the minimal unity of a heap. A heap is not a this because it has no form or essence that makes it an individual substance. As a result, Aristotle's ontology contains pluralities without an essence, which are the matter of substances. 20

V. Two Versions of Plural Constitution 35

Up to this point, building upon the Causal-Explanatory Model, I have argued that matter is (a) independent of the form and (b) a heap, which explains (c) why it has no essence in the strict sense. Since the matter is not an individual with an essence, its independence of the form does not undermine the unity of the substance. For (d), a substance's unity is 40

undermined only if its matter itself is a substance. This interpretation, however, seems to go against an influential line of interpretation in Aristotle that holds that matter has no essence and form *only relative to a substance or product*. Bricks and stones have no essence relative to the house; that is, bricks and stones in themselves are not a house. But, of course – a proponent of this interpretation would hasten to add – the bricks *as bricks* have an essence.³⁶ After all, we can define bricks. This objection focuses on forms at a lower level. It maintains that some matter, which constitutes a substance, call it matter₁, can itself have matter, matter₂. Since matter₁ is distinct from matter₂, we can prove by appeal to the regress argument in Z 17 that matter₁ must have a form.

Aristotle holds that matter can have matter, but he never suggests that the matter of some matter is a this somewhat. He has a good reason for this, for he also holds that no substance can consist of substances, or equivalently, no this somewhat can consist of this somewhats (*Met.* 1039a2–8; 1041a4–5). Since Aristotle does not explicitly address this tension, any suggestion is bound to be somewhat speculative. Here is how I would address it. First, we might distinguish between the claim that matter as a whole is not a this somewhat, from the claim that the material parts taken individually are this somewhats. The materials of a house, as a whole, are not a this somewhat, and they do not have an essence; but this is compatible with the assumption that a single brick has an essence. The discussion in Z 17 certainly leaves this option open. Aristotle argues that the *A* and the *B* taken together are a heap, and that without an arrangement they do not constitute anything. But the letter *A* is certainly an individual, and so is the letter *B*. Aristotle's argument is, as I argued above, that matter must be a plurality; otherwise, no cause of unity is needed. However, he does not say that the material parts that make up the plurality cannot be hylomorphic composites themselves. We must explain why the letter *A* and the letter *B* constitute a syllable, and this explanation requires the introduction of a form. This form, as Aristotle says in Z 17 and H 6, explains why the syllable is an individual with an essence that is distinct from its constituent letters, *A* and *B*. However, this form does not explain why the letter *A* or the letter *B* is constituted by some ink; and crucially, the forms explaining why some ink constitutes the letter *A* and some ink the letter *B* do not give an account of why the letters together constitute a syllable. According to this minimalist interpretation, Aristotle is concerned to show that matter, as a whole, is not an individual with an essence, because if it were it could not constitute another substance, for there

would be two forms doing the same explanatory work: that is, they would both explain why the matter constitutes an individual with an essence. Since this is impossible, material constitution, for Aristotle, has an inverted tree structure: a substance, which is at the top, is constituted by several material parts, and each of these parts is, in turn, constituted by several material parts, and so on. This is compatible with the assumption that a substance is composed of substances as long the constituent substances are not, collectively, a substance. This is also compatible with the assumption that artefacts are substances or substance-like. Structurally, they are like substances in that they have a principle of unity which explains why several material parts constitute a whole. Of course, this is not to say that they are substances, but the reason why they are not must be, on this interpretation, their forms. For instance, it could be that the form does not unite them into proper wholes. Whatever it may be, the reason is not that their matter is an individual with an essence.³⁷

The minimalist reading (i.e. matter as a whole is not a this but a heap) is, I believe, a promising line of thought, and it yields a general account of hylomorphism. However, the way Aristotle states his claim that substances cannot constitute a substance suggests a stronger reading:

For it is impossible for a substance to be composed of substances that are actually present in it. For things that are actually two in this way are never actually one, although if they are potentially two, they can be one. For example, the double line is composed of two half lines, at any rate potentially. For their actuality separates them. And so if the substance is one, it will not be composed of substances present in it and present in the way that Democritus rightly states. For he says that it is impossible for one to be composed of two or two of one. For he makes the indivisible magnitudes the substances. (*Met.* 1039a3–11)³⁸

Aristotle's example of the line suggests that *none* of the constituents of a substance can be substance. If each of the two half lines is a substance, they could not constitute one single line. Thus, if we assume that a line is a substance, none of its parts can be a substance. The parts exist only potentially in a line insofar as the division of the line would create two independent substances, but as long as the line is undivided, they do not exist actually in the line as substances.³⁹

Thus, my second response is to insist that having matter does not imply that something is a this somewhat and has an essence in the strict sense. That is, if constitution has an inverted tree structure, only the top node is a substance, but all the other nodes are not. For instance,

when Aristotle commends Plato for positing Forms of natural substances only, he adds, somewhat mischievously, ‘if indeed there are Forms other than these, for example, fire, flesh, head, since these are all matter’ (*Met.* 1070a19–20).⁴⁰ The implication is that Plato was wrong if he assumed that there are Forms for fire, flesh, and head because they are matter. Aristotle does not say, as he easily could have, that some matter is also a substance; instead, he asserts that fire, flesh, and head are all matter *tout court*. This suggests that they are not fully formed individuals but only matter. It is important to note that these are not random examples for Aristotle, but correspond to the three levels of constitution of animals, which are his paradigmatic substances. As he explains in *Parts of Animals* II 1, the four elements constitute the uniform parts of animals, such as flesh, bones, and sinews, and these in turn constitute the non-uniform parts, such as the hands, feet, and head.⁴¹ Without going into the details of Aristotle’s theory of biology, these passages suggest that only the fully formed living being has a substantial form in the strict sense. By contrast, the things that constitute living beings are not fully formed substances: for they either resemble heaps, like the elements and flesh,⁴² or they cannot exist independently, like the non-uniform parts.

Thus, we are faced with two competing versions of hylomorphic plural constitution. On one version, the claim that a plurality has no essence is to be understood collectively. The material constituents, taken together, have no essence and are not an individual. This explains how the form can be a cause of being and unity because, since the plurality does not have a form and essence, there is no explanatory double-duty. Although it is a constraint on hylomorphic constitution, it is relatively minimal because it is compatible with the assumption that, individually, the material constituents are individuals with an essence. On the other version, the claim that a plurality has no essence is to be understood distributively. None of the material constituents is an individual with an essence. This narrows the scope of hylomorphism considerably since only living beings will have forms in the strict sense. All other beings, including artefacts⁴³ and lower-level natural things, are merely related wholes; that is, they are wholes whose parts stand in some relation to one another, without thereby constituting individuals. While this might be an unwelcome conclusion for contemporary hylomorphists, it might not be for Aristotle. His hylomorphism was never intended to be a general theory of mereology, but a specific theory that can explain the being of substances and the distinction between coming-to-be and passing-away.

Notes

1. See Goodman and Hefferline (1951); Lesniewski (1992). Comprehensive accounts of mereology that also explore metaphysical issues are Ridder (2002); Simons (1987).
2. For the various options and discussion, see Johnston (2006); Koslicki (2008; 2018); Sattig (2019); Scaltsas (1990); Shields (2019).
3. Defender of this version of hylomorphism are Loux (2006); Lewis (1995). (A separate question is whether the form is a *part* of the hylomorphic composite. For discussion, see Johnston (2006); Koslicki (2006)). For reasons against this view, see especially Scaltsas (1994a; 1994b); Kosman (1987), and for an interpretation of Z 17 along these lines, see Marmodoro (2013). H 6 is often quoted in support of the view that form and matter are essential unities: 'The matter and the form are one and the same thing, the one in potentiality, the other in actuality. Therefore to ask the cause of there being one is like asking the cause of unity in general; for each thing is a unity, and the potential and the actual are somehow one' (*Met.* 1045b18–22). First, note that at the beginning of H 6 Aristotle restates the claim that the material parts, in themselves, are a heap and that the form is the cause of being. Thus, I don't think that Aristotle advocates a different version of hylomorphism here. Second, I agree with Loux (1995) and Lewis (1995) that Aristotle's main concern in H 6 is to show that his causes of being are also causes of unity and that there is no generic explanation why a substance is a unity. Instead, there is no cause of unity other than the form. On this reading, form and matter being one means that they are related in virtue of what they are. Although, as I am going argue, matter is a heap and has no essence, it is teleologically directed towards the form. Take the sphere made of bronze: I argue in this paper that, if we ask 'What is this bronze?', the correct answer is that it is not an individual of any kind at all. Thus, its being bronze does not *compete* with its constituting a sphere, and there is only *one* individual here, namely, a sphere made of bronze. However, for a complete account, I would need to show how the bronze is potentially a statue. As Aristotle puts in the *Physics*: 'For what is only potentially flesh or bone, before it acquires the form that is in accord with the account by which we define flesh or bone and say what it is, neither has yet its own nature nor is it by nature' (*Phys.* 193a36–b3, trans. Reeve (2018)). Acquiring the form is a development of matter into its nature, a nature that, even if matter does not actually have it, is nevertheless already its nature.
4. Strictly speaking, the cause of being is a final cause or, perhaps better, the form considered as a final. Aristotle suggest that the formal and final cause can coincide in *Met.* 104127–30, 1043a7–8; *Ph.* 198a24–26. For our present purposes, we can set this aside.
5. See Peramatzis (2018). However, I differ significantly from Peramatzis on the question of whether the model implies the independence of matter; I believe that it does, but he believes that it does not. For a critique of Peramatzis, see Sirkel (2018).
6. I take this schema to be equivalent to form-matter predication in that the metaphysical predication of a substantial form F of the matter M, explains why the (composite) substance S exists. Cf. Z 13; H 2, 1042b25–28.
7. See Cohen (1978: 403–4); Loux (1995: 273); Haslanger (1994: 144–5); and Sirkel (2018).
8. Note that we must distinguish the question of whether the matter is independent of the form from the question of why the matter is *apt* to be informed. Iron is the matter for a saw only because it is hard and therefore apt to

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- carry out the function of sawing. The presence of iron in saws is thus explained by what a saw is. However, this does not imply that iron has its properties *because* it is the matter of a saw. On this point, see Cooper (1987: 261). 1
9. See, e.g., Frey (2007). I would like to thank an anonymous referee for pressing me on this issue.
10. See especially Code (1976). For the view that *Ph. I* does not imply the persistence of matter, see the recent study by Henry (2019). 5
11. See Gelber (2015: 49–53).
12. See, e.g., Loux (1995), who argues that the problem of unity for Aristotle is just the problem of how to give a specific explanation of why the matter constitutes a composite.
13. Peterson (2018) suggests that the problem of unity is first and foremost the problem of explaining why a substance does not consist of substances. 10
14. In contemporary philosophy, constitution is often construed as relating a single object (e.g. a lump of clay) to another single object (e.g., a statue), while composition as relating a single object (e.g., a statue) to a plurality of objects (e.g., a head, torso, legs, and arms). See Korman and Carmichael (2016).
15. Fine (1992: 37) explicitly raises the issue but discards it as a minor problem.
16. Cf. Lewis (1995) and Witt (1989: 113–21). 15
17. Cf. *Met.* 1016b11–16; 1045a7–10.
18. I thank Marko Malink for pointing out to me that the term *syntheton* refers to this feature of hylomorphic substances.
19. Cf. Koslicki (2006: 719 n.14), who holds that Aristotle relies on WS here.
20. For this interpretation, see also Papandreou (forthcoming). By contrast, Ross (1924: 1:229) takes all examples to be examples of non-substantial forms and says that the items in group (a) are all in the category of having (*echein*). 20
21. Cf. Wedin (2000: 435): ‘Whenever form supervenes on matter, the matter is not just one element. This would require flouting Democritean principles and rejecting actually indivisible magnitudes – something Aristotle might well find congenial.’
22. Cf. Koslicki (2008: 140): ‘I interpret totals as the Aristotelian equivalent of CEM-style mereological sums or aggregates.’ This might not be a wholly accurate interpretation of Aristotle’s view, however, since Aristotle apparently assumes that the parts of a heap must be in contact. For a fuller argument that heaps are not mereological sums, see Wedin (2000: 442–4). For our present purposes, this question is not salient because on both interpretations heaps are pluralities. 25
23. In these paragraphs, I have greatly benefitted from an objection raised by an anonymous referee. 30
24. This passage touches on the issue, discussed above, whether the homonymy principle speaks against the matter’s independence of form. But, in fact, the principle does not speak against this, for Aristotle says explicitly that some matter exists after the detachment. Thus, in this passage Aristotle is pointing out that matter is an independent subject, as is required by the causal scheme in Z 17. For this interpretation, see also Pfeiffer (2018). 35
25. Here is some speculation on why this is so. First, the problem of the one and many is a well-established problem that Aristotle inherits from his predecessors. The problem is how one thing can also be many things (*Ph.* 185b11–16). In the case of heaps and alls, the problem is especially pressing because the same portion of water is both one and many. Aristotle seems to solve this problem by relying on the principle that if the whole is one in actuality, the parts are many potentially (See *Phys.* 186a2–3, and the discussion in Pfeiffer (2018)). Second, Aristotle distinguishes a mere plurality (*plēthos*) from a number (*arithmos*), 40

- i.e., a counted plurality (See *Met.* 1020a8–14) Thus, without a measure, a principle of counting, a plurality is many without being determinately many. A plurality of things is on my desk, but whether these are four, 10, or 100, depends on what I count. 1
26. In contemporary metaphysics, this idea has been developed by Burke (1997) and Laycock (1972; 1975). It is beyond the scope of this paper to compare Aristotle's account to these modern-day accounts in any detail, but I submit that they share the same spirit. 5
27. For an interpretation of the elements that is in this spirit, see Sokolowski (1970). Concoction and its role in the generation of living beings is discussed in *Meteor.* 379b18–26. See also Frey (2015) on the crucial role of blood in the transition from the inanimate to the animate. 10
28. For a recent paper on *tode ti* that discusses the various ways of how to construe the phrase, see Corkum (2019). Corkum himself takes *ti* not as general but as a specifying an arbitrary member of the class of *tode*. According to him, this is the class of demonstrable items. I do not want to deny that a *tode ti* is typically demonstrable, but on Corkum's construal, we risk losing the critical connection to definability. See my comments that follow. 15
29. For a similar take, see Wedin (2000: 218), who argues that a this is 'something having a structure that is captured by a separate formula or definition', and Gill (1991: 31), who argues that it 'sometimes specifies a particular falling under a kind, and sometimes a determinate kind'. 20
30. There is a complication here because Aristotle says a form is a this somewhat (*Met.* 1042a28–29; 1049a35), but a form is not an individual in the sense specified here. So why is it a this somewhat? I suggest that, since the form is prior and the cause of something's being a this somewhat, it must itself be a this somewhat; otherwise, a non-substance would be prior to a substance; see *Met.* 1038b23–25. Furthermore, a form satisfies the criterion of definability, which I take to be the core feature of being a this somewhat. Note, however, that Aristotle denies that the form and essence is a this somewhat at *Met.* 1037a1–2; this shows that in some contexts the notion of individuality is important. 25
31. For a detailed discussion, see Angioni (2014); Peramatzis (2010). 30
32. For this claim, see *De an.* 412a6–9, *Met.* 1070a9–11, and (by implication) 1029a20–25. 35
33. In Z 8, Aristotle repeatedly calls matter a 'this' (*tode*) and states that, in the generation of the composite, the form comes to be 'in another thing' (*en allō*; Z 8 1033a34). This passage is obviously in tension with my account, since I explicitly assume that matter is not a this somewhat. As a reply, 'this' might have a deictic function here; for example, we might point to a pile of stones without ascribing an essence to it or saying that it is a this somewhat (*tode ti*) in the proper sense. 40
34. Dancy (1973: 698) draws the opposite conclusion that, since we can say what the bronze is, it cannot be matter.
35. Jaeger inserts a *crux desperationis* here, and suggests that we should read *dunamei* ('in potentiality') instead of *tō phainesthai* ('by appearing so'). As I will show, however, the text makes perfect sense as it is. I follow here the recent edition by Alexandru (2014). On the text and its interpretation, see Judson (2019: *ad loc.*), who also thinks the text might be corrupt, but at least sees that the denial that matter is a this somewhat must be connected to its being a heap.
36. See, e.g, Frede & Patzig (1988 Vol.2: 46); Ainsworth (2020).
37. As it is suggested by Kosman (1987).
38. As an anonymous referee pointed out, this passage seems to be a further argument (indicated by *eti*) for the claim, central to Z 13, that no universal is a

- substance. Thus, one might doubt whether Aristotle views this as general argument. My reply to this is, first, that in the preceding lines Aristotle treats universals as constituents of substances. He repeatedly claims that these universals are supposed to be present in (*enuparchei*) the substance and that the substance is constituted by (*ek*) them. See 1038b18, b21–22, b23–25. Second, Z 16, 1041a3–5, Aristotle treats the claim that no universal is a substance and the claim that no substance can be constituted by substances as two distinct claims. 1
39. For a detailed discussion of the potentiality of parts, see Pfeiffer (2018).
40. It is tempting to follow Pseudo-Alexander, as Reeve does, and to transpose the passage reading ‘for example [...] head’ to lines 10–11 (quoted above). In this case, lines 10–11 would read: ‘For whatever is by contact and not by natural unity is matter and underlying subject, for example, fire, flesh, head, since these are all matter, and the final matter is that of what is most of all substance.’ The intended thought would then be much more clearly expressed. 5
41. See *PA* 646a12–24. The same theory is found in *GA* 715a9–11.
42. Aristotle does not say explicitly in Z 16 that flesh is a heap. I would respond as follows: (a) flesh is a mixture, and though the ontology of mixture is itself a topic of great debate, Aristotle never suggests that a mixture is a this somewhat. (b) The detached hand that Aristotle calls ‘matter’ in Z 16 is dead flesh, and I see no reason why, in this context, it should not be considered a heap. See also my remarks on pp. 4–5. 10
43. Aristotle suggests, in various places, that artifacts are not substances because they do not have a nature. See *Met.* 1041b28–31; 1043a4–7. Most commentators take him at his word here. For a recent and complete discussion, see Papandreou (forthcoming). 15
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