

## Hylomorphism in Aristotle's *Physics*

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My topic is hylomorphism, by which I mean the doctrine that ‘things due to nature’ (τὰ φύσει ὄντα) are a kind of composite of matter and form. I first present and criticize a certain interpretation of this doctrine and then try to sketch an alternative. I limit myself to the *Physics*, concentrating especially on books 1 and 2. I say nothing about how the doctrine figures in other important texts such as the *De anima* or *Metaphysics*.

### I

I begin by setting forth the interpretation I want to criticize. Though its main elements will be familiar, I treat it here as a dialectical construct, a useful foil for the interpretation developed later below.

Everyone agrees that hylomorphism is connected somehow with Aristotle's conception of coming to be (γένεσις); it is because Aristotle thinks natural things come into being that he thinks they are hylomorphic compounds. The interpretation I want to introduce and criticize is one natural-seeming way of making this idea more precise. It involves in part a view about how Aristotle argues for hylomorphism, in part a view about where he thinks the doctrine innovates, and in part a view about why he thinks it important. These parts sit well together, reinforcing one another and giving the interpretation a certain coherence, and along with that (or so I think) considerable power and appeal. Nevertheless, attractive though the interpretation may seem, my own view is that it misses the substance of the doctrine and thereby obscures its novelty and importance.

### I.1

On the interpretation I have in mind, Aristotle's main and definitive argument for hylomorphism is found in the first half of *Physics* i 7 (see, e.g., Ross 1936, 22; Mansion 1946, 70-71; Wieland 1970, 111; Bostock 1982, 194; Graham 1987, 133; Lewis 1991, 193; Horstschäfer 1998, 181-182). The argument rests on a kind of analysis of coming to be or change. The basic idea is that careful attention to the language we use to describe coming to be shows that changing things are always in a certain respect complex; that is, we can always distinguish within them two elements, one that does and one that does not continue to exist when the change is over. Given this, and given that natural things change, this will also hold of natural things. In particular, given that natural things are not only subjects but also products of change, it will follow that they can always be analyzed, not

only into an element that does and an element that does not continue to exist when the changes they are subject to are over, but also into an element that did and an element that did not previously exist before the changes that produced them got underway. If we call this pre-existing element 'matter' and the other element 'form', we may then say that natural things are all a kind of composite of matter and form. This is hylomorphism.

The leading idea in this line of argument is that in every coming to be there is always something of the original situation that survives. As I have just presented it, this idea is elicited from the language we use to describe coming to be; a variation would be to elicit it also or instead from a sort of *a priori* argument, to the effect that no change from one situation to another would be the coming to be of the one from the other unless something of the original situation survived (e.g., Bostock 1982). (If nothing survived we would have, not the change of one thing into another, but rather the exchange of one thing for another.) The differences between these variations are not important for my purposes here; in both the fundamental idea is that in any coming to be there is always something of the original situation that survives.

The reason I want to highlight this idea is that it sits comfortably with a certain view about the novelty of hylomorphism, namely, its discovery of a new and hitherto unimagined kind of complexity in natural things. On this view, hylomorphism innovates in the very idea that natural things can be so to speak divided, not just into top and bottom and left and right and front and back and so on, but also and along very different lines—lines drawn, so to speak, by the facts attending their *genesis*—into matter and form. If it is news that in any coming to be there is always something of the original situation that survives, then it should likewise be news that the products of coming to be are complex in the way this implies—that they are a special kind of composite of two elements, one old and one new, one matter and one form.

This view of the novelty of hylomorphism is in turn reinforced by a certain understanding of why the doctrine is so important for Aristotle. On the interpretation we have been developing, Aristotle must think that it was an at least implicit presupposition of earlier theorizing that natural things are 'simple' in the dimension or respect in which hylomorphism says they are complex. But now this point appears to find independent support in the idea that it was precisely the failure to distinguish between matter and form that led these thinkers to deny the very possibility of coming into being. Briefly put, the idea is that earlier philosophers fell into difficulties about this because they thought that true coming into being would have to be *ex nihilo*. According to Aristotle, the story goes, the way out is to distinguish true coming to be from *genesis ex nihilo* by pointing out that the former proceeds from an original situation of which something always survives.

The interpretation I want to consider, then, may be encapsulated in three points. First, what is new in hylomorphism is its discovery of a new dimension of complexity and structure in natural things—its discovery that there is a distinction to be made between their matter and their form. Second, *that* natural things

are complex in this way is shown by the fact that in any coming to be there is always something of the original situation that survives. Third, it is by appeal to this latter idea, and along with it to hylomorphism, that Aristotle resolves the difficulties that led his predecessors to believe that coming to be is impossible.

I believe that this interpretation will be familiar, and I hope that it will be clear how its pieces hang together: the bit about where the doctrine innovates is natural, given the bit about how it is argued for, and sits well with and is reinforced by the bit about why it is important. I emphasize this in an attempt to do the interpretation justice; in my view it is mistaken in nearly every particular.

## II.1

I now turn to some criticisms. I first want to argue that the interpretation sketched above is wrong about wherein hylomorphism is supposed to innovate.

I begin with a preliminary point, which is that even if the very distinction between matter and form is *an* innovation of hylomorphism, it is by no means the only one. In addition, Aristotle also wants to confer a special status upon matter and form; this is unique to him and is part of what he is driving at when he says that matter and form are a kind of ‘element’. His point is not merely that matter and form are so to speak *there*, in natural things, to be distinguished from one another and the things they compose. He is also and more importantly saying that matter and form are *elements* of the things they compose. In *Physics* i he puts this by saying that matter and form are the ‘causes’ and ‘principles’ of natural things, ‘of which they primarily consist and from which they have come into being, not incidentally but each what it is called in respect of its substance’ (*Phys.* i 7.190b17–20). In *Physics* ii he makes what I take to be the same point by saying that matter and form are both ‘nature’ (194a12–13), i.e., the very ‘nature and substance’ of the things they compose.<sup>1</sup> If that is right, then at least in these early books of the *Physics*, the doctrine we call ‘hylomorphism’ is a doctrine about the principles or ‘causes’ of natural things. It says not only that natural things can be divided into matter and form, but also that the items yielded by this division are their very elements and principles, their very nature and substance.

To say that Aristotle is innovating when he assigns *both* matter and form the status of ‘nature’ and ‘principle’ is not yet to say that he is not also innovating just in distinguishing them from one another in the first place. However, it does raise the question, and once the question is raised it soon becomes apparent that Aristotle does not represent himself as innovating here at all. That is, Aristotle does not represent form and matter as so to speak new arrivals on the conceptual scene, by him distinguished for the first time from one another.<sup>2</sup> On the contrary, he represents them as familiar contenders—familiar from the theories of his pre-

<sup>1</sup> Aristotle defines nature as a kind of principle of natural things, and treats the question of what is the nature of something as tantamount to the question of what is its substance (*Phys.* ii 1.192b20–3; 193a9–11).

<sup>2</sup> This point was brought home to me by David Blank. For a subtle and sophisticated version of the view here criticized, see Graham 1987, esp. 128–155.

decessors—for the title of principle or element or nature or substance.

To take an example, consider the following passage from *Physics* i 4, which contains the first occurrence of the word ‘matter’ in the *Physics*:

Some, having made the underlying body one—either one of the three or something else, denser than fire but subtler than air—generate the rest by density and rarity, making [them] many (and these are contraries, and in general excess and defect, just as Plato speaks of the Great and the Small, except that while he makes these matter and the one form, they make the one (the subject) matter and the contraries differentiae and forms). (187a12-20)

In this passage Aristotle uses the words ‘matter’ and ‘form’ to report the views of some of his predecessors. To be sure, he does not say that these very words were part of their philosophical vocabulary (ditto for ‘subject’, ‘contrary’, ‘differentia’). Nonetheless, what he does say—that both groups make use of a ‘one’ and some ‘contraries’, with the difference that Plato makes the contraries matter and the one form, while they make the one matter and the contraries form—does not at all comport with the idea that the advance he is preparing to make in the next few chapters consists in distinguishing form and matter from one another. On the contrary, Aristotle here speaks as if matter and form were both integral parts of earlier systems (and indeed, as if they figured in those systems as a kind of principle). Why does he think he can get away with portraying his predecessors in this way? The reason, I submit, is that the crucial difference between his system and theirs does not lie in the fact that he distinguishes, as they do not, between the matter of a thing and its form, but rather in the fact that he makes both matter and form principles in a way that none of them does. In the language of *Physics* i, he alone makes them both *elements* of natural things; in the language of *Physics* ii, he alone makes them both nature and substance.

Continuing with *Physics* i, the term ‘matter’ occurs next in chapter 7 (three times). The first of these may be set aside; Aristotle speaks of things that change ‘by turning in respect of their matter’, meaning thereby to speak of ‘alteration’ narrowly conceived, as opposed (for example) to change of size or shape (190b9). The second occurrence is at 190b25, where the term is used in a summing up expression: ‘on the one hand there is the human being and the gold and in general the countable matter’ (190b24-25). It is difficult to read this passage as introducing matter as a new arrival on the conceptual scene. The third and final occurrence of the word ‘matter’ in i 7 is at 191a10, where Aristotle uses the term in the course of explaining his conception of what he calls ‘the underlying nature’ (ἡ ὑποκειμένη φύσις). This latter conception is unfamiliar, especially in the peculiar status assigned to it vis a vis ‘being’ and ‘substance’ (191a12-14; see also i 9.192a5-6). However, among the notions Aristotle relies upon to explain this obscure conception are precisely those of matter and form, which here appear, not as themselves in need of explanation, but rather as familiar ideas that Aristotle can invoke in order to illuminate his conception of ‘the underlying

nature' (191a7-12). Here again, then, Aristotle treats the very distinction between matter and form, as well as at least something of the relation between them, as something he can rely on to help explain the novelties of the position he is developing. This sits very poorly with the idea that he thinks of this distinction as something he has just discovered.<sup>3</sup>

Things do seem different, at least at first blush, in the final chapter of *Physics* i, where the term 'matter' occurs next (it occurs there five times, at 192a3, a5, a6, a22, a31). For here in i 9 Aristotle does emphasize the importance of distinguishing, as the Platonists fail to, if not between matter and form, then between matter and privation (191b35-192a8). But even here we must be careful. Aristotle does not represent the Platonists as failing to recognize that in any coming to be there is always something that survives. For the element that he says they fail to distinguish from privation is 'the Great and the Small', which in other places he treats as equivalent to the 'space' or 'receptacle' of the *Timaeus*, which of course *does* survive the transactions taking place 'in' it.<sup>4</sup> As Aristotle represents it, the Platonist failure to distinguish between matter and privation does not stem from a failure to recognize that in any coming to be there is always something that survives, but rather from their characterization of this surviving 'nature' (φύσις, 192a10) as (in effect) a kind of 'non-being'—a failure that Aristotle evidently thinks goes hand in hand with the failure to see that it is to be reckoned positively a cause, along with the form, of what comes to be from it (192a9-16). If that is right, then Aristotle does not suggest in this chapter that the Platonists go wrong in failing to distinguish, within the situation from which coming to be arises, between an element that does and element that does not survive (nor correspondingly, within now the products of coming to be, between an element that did and an element that did not previously exist). Their conflation of matter and privation does not stem from their thinking that *nothing* survives, but from their thinking of what does survive as a kind of non-being (one that is not-being, not merely incidentally, but so to speak in its full nature).

None of this is to deny the real and important differences between matter and form as Aristotle himself conceives of them, and as he makes free to attribute them to his predecessors. For example, the way Aristotle represents things, the kinds of body that the Presocratics made 'matter' were conceived of by them as full-blown kinds of substance; by contrast, Aristotle's own view is that matter is 'near' substance, or that it is substance 'in a way,' namely, 'in power' (*Phys.* i 9.192a5-6; ii 1.193b6-8). Again, the way Aristotle represents things, the kinds of differentia and contrariety that the Presocratics made 'forms' of body were *not* conceived by them as any kind of substance; by contrast, Aristotle's own view is that form certainly is substance, even more so than matter (cf. *Phys* i 7.191a8-13; ii 1.193a31-b6, b6-8). Again, more or less the reverse may be said about Aristo-

<sup>3</sup> But *Phys.* iv 2.209b20-21 (of matter and form): χωρὶς ἀλλήλων οὐ ῥᾶδιον γνωρίζειν.

<sup>4</sup> For the virtual equivalence, in Aristotle's mind, of the receptacle and the Great and the Small, see *Phys.* iv 2209b35-210a2 (on which see Ross 1924, i 169, *ad Meta.* i 6.987b20).

tle's representation of the Platonists; they make the items they call 'form' substance and being, denying this status altogether to the items they make 'matter', namely, the Great and the Small or the receptacle.<sup>5</sup> To be sure, then, there are these real and important differences between Aristotle's own conception of matter and form and the conceptions he ascribes to his predecessors. Nonetheless, I want to suggest, these other differences are posterior to the main difference, which lies in Aristotle's conviction that both matter and form are nature and substance. To put it crudely, this conviction requires that the nature and substance of things, which was formerly assigned either all to matter or all to form, now be distributed between matter and form; this in turn forces a major re-thinking of how things stand with form and matter vis a vis their relation to substance (and also and relatedly to one another). Indeed, I would venture to say that there is virtually nothing distinctive about Aristotle's conception of either matter or form that cannot ultimately be traced back to this first and fundamental conviction that both of them are nature and substance.

However that may be, the main point I want to make here is just that Aristotle does not in fact represent his predecessors as innocent of any distinction between the form of a thing and its matter. The novelty of hylomorphism does not lie in distinguishing between matter and form, but in making both of them nature and substance.

## II.2

I turn now to consider how Aristotle argues for hylomorphism—or rather, how he does not argue for it. I want to make two points. The first is that he does not argue for it in the first half of *Physics* i 7 from observations about how we speak about coming to be; although Aristotle does elicit a single thesis from these observations, that thesis is not a statement of hylomorphism. The second is that Aristotle's 'argument' for hylomorphism (such as it is) does not turn on the idea that in any coming to be there is always something that survives; though this is indeed something Aristotle says (near enough), it is not something he argues for or expects to be controversial—and even if it were, it would not come anywhere close to establishing hylomorphism. I have argued for these points at length elsewhere; here I offer a brief recapitulation of the main ideas (Kelsey 2008).

We may start by getting clear about the thesis Aristotle does argue for in the first half of *Physics* i 7. For there is in fact a single thesis at issue in this part of the chapter, to which the many things Aristotle says there are ultimately subordinate. This thesis comes in two parts; it says, of 'things that come to be' (τὰ γιγνόμενα), first that they are always 'subjects' (ὑποκείμενα), and second that, at least 'in form', they are never 'one' (or, that they are always 'two'). This two-part thesis is *the* moral Aristotle draws from the observations he collects about how we speak about coming to be (190a13-16). But it is not a statement of hylomorphism. It does not say that natural things are a kind of composite of matter and

<sup>5</sup> This is the thrust of his criticism in *Physics* i 9.

form, let alone that they have matter and form for their very elements and principles.

It is true that Aristotle sometimes uses the language of ‘composition’ in formulating the point that τὰ γινόμενα are never ‘one’, or that they are always ‘two’; that is, he sometimes puts this by saying that they are always ‘composite’ (190b11; see too 189b32–34, 190a3–5, a12, a20). However, the language of ‘composition’ notwithstanding, the fact remains that this is not a statement of hylomorphism. In the first place the components are all wrong; whereas hylomorphism is about matter and form, the components at issue here are matter and privation.<sup>6</sup> Second, the manner of composition is all wrong as well. The kind of complexity Aristotle here attributes to τὰ γινόμενα is that exhibited by a single token exemplifying two distinct types; for example, the individual that comes to be musical is ‘composite’, in that it exemplifies the types ‘unmusical’ and ‘human being’; the stuff that comes to be a statue is composite, in that it exemplifies the types ‘unshapen’ and ‘bronze’; and the same is true of all the examples Aristotle uses to illustrate the point that τὰ γινόμενα are always ‘composite’: the ‘unity’ of the two ‘forms’ of which they are ‘composed’ consists in their being exemplified by a single token (in Aristotle’s language, they are one ‘in number’). By contrast, the complexity at issue in hylomorphism is not the sort of complexity exhibited by a single token exemplifying two distinct types; it is rather a kind of complexity exhibited within (so to speak) the structure of a single type, as manifested in how that type is defined.<sup>7</sup> So, for example, hylomorphism does not just say that, e.g., human beings are composed of body and soul, but also and more powerfully that they have both body and soul for their elements and principles, i.e., for their very nature and substance. This is a fact about human beings that manifests itself in the very definition of the type, and one important consequence of this is that it requires that body and soul be ‘combined’ or ‘united’ with one another far more closely than is ensured by the fact that they are exemplified by a single token. In Aristotle’s language we might put the point in this way, that body and soul are ‘one’, not only ‘in number’, but also ‘in being’.<sup>8</sup> Otherwise, their very distinctness from one another will threaten to compromise the unity of the types they define, and thereby also that of the individual substances of which they are the elements and principles. For these reasons it is a mistake to understand the thesis for which Aristotle argues in the first half of

<sup>6</sup> This is a point about which Aristotle is both explicit and consistent; the things of which he repeatedly says that, though in one respect they may be ‘one’, in another respect they are always ‘two’, are always what coming to be is *from*, and the ‘opposites’ of which they are ‘composed’ always carry a negative charge: both in his general characterizations and in his particular examples this component is always of some kind of privation or formlessness (see esp. 190a17–31).

<sup>7</sup> See, e.g., *Phys.* i 7.190b21–22: δαιλύσεις γάρ εἰς τοὺς λόγους τοὺς ἐκεῖνων. (Here the point is being made about *musical man*, which Aristotle uses as a model for the things he is interested in, namely, τὰ φύσει ὄντα [see 190b19–20].)

<sup>8</sup> Cf. *Phys.* i 8.191b28–29: ‘it is possible to speak of the very same things in respect of power and in respect of activity’ (ἐνδέχεται ταὐτὰ λέγειν κατὰ τὴν δύναμιν καὶ τὴν ἐνέργειαν). The kind of ‘sameness’ at issue here is evidently sameness in *being*.



*Physics* i 7 as a statement of hylomorphism. The components at issue there are matter and privation, while the components of a hylomorphic compound are matter and form; the ‘composition’ at issue there is via unity ‘in number’, whereas the composition of a hylomorphic compound is via something altogether more profound, a kind of unity ‘in being’.

This brings me to the second point I want to make, which is that Aristotle’s argument for hylomorphism does not turn on the idea that in any coming to be there is something that survives. This is indeed something Aristotle says (close enough), in the course of arguing that τὰ γινόμενα are never ‘one’. However, it is not something for which he argues in *Physics* i—he simply asserts it—nor is there any reason to think he expects it to be controversial.<sup>9</sup> More importantly, however, the point that something always remains does not come anywhere close to establishing hylomorphism. For again, as noted earlier, hylomorphism is a doctrine about the nature and principles of things; as such, at least part of what it says is that both matter and form enter into the very ‘account’ or ‘definition’ (λόγος) of natural things: that is, the *logos* telling what kind of thing they are will itself be a kind of composite, put together from the *logos* of their matter and the *logos* of their form (see, e.g., *Phys.* i 7.190b17–23). However, the idea that in any coming to be there is something that survives is miles away from establishing this. To be sure, the idea does provide some reason to think that natural things are a kind of ‘composite’—that they can be broken down, so to speak, into two pieces, one ‘old’ and one ‘new’. However, there is no reason at all to think that *these* pieces will be the ones in terms of which natural things are defined; on the contrary, as a rule, there will be much more to the old and the new than will ever make it into the definition of things. So, for example, suppose I build a house from some bricks, and that we ‘break’ the house conceptually into two pieces, one old and one new. Is there any reason to think that we can define houses by putting together *these* pieces? Included in the new will be the fact, e.g., that the house irritates the neighbors, blocking their view and casting shadows on their garden, or that it impacts the local environment and economy; included in the old will be the fact that the bricks are red and from such and such a yard. But none of these things are any part of what it is to *be* a house.<sup>10</sup> More generally, the problem is that everything has countless sides or aspects, some old and some new, whose connections to what kind of thing it is are more or less incidental. To be sure, we might begin from the idea of ‘the old and the new’, as measured by reference to *genesis*, and then subsequently narrow it down, introducing further

<sup>9</sup> It is true that Aristotle does argue, not that in any coming to be there is always something that ‘remains’ (ὑπομένει), but that in any coming to be there is always a ‘subject’ (ὑποκείμενον), or something which ‘underlies’ (ὑπόκειται). But this is a different point, as is shown by (among other things) the arguments Aristotle makes for it.

<sup>10</sup> This is true despite the fact that some of them—e.g., the casting shadows—are things that any house can be counted on to do; to see this we need only consider that even if by some miracle there were a house that did not cast shadows, it would not be any less a house *by that very fact* (though it might be for other reasons, e.g., because it was useless for shelter).



refinements until we are left with something that looks more like what Aristotle would call matter and form, and that would (he thinks) deserve a place in the definition of natural kinds. Nevertheless, the point remains that the idea that in any coming to be there is always something that survives does not itself afford any guidance as to how these further refinements are to be made. In this way the idea fails to supply the materials for a satisfactory argument for hylomorphism.

If that is right, then the interpretation we have been considering is wrong, not only about where the doctrine of hylomorphism is supposed to innovate, but also about how it is supposed to be argued for. (These two criticisms are of course connected; my views about how the doctrine is argued for are informed by, and in part depend upon, my views about its content.)

### II.3

I turn now briefly to my third and final criticism of the interpretation we have been considering, which has to do with its account of the relation between hylomorphism and the *aporia* that led Aristotle's predecessors to believe that coming into being is impossible. Aristotle discusses this *aporia* in *Physics* i 8. Here I want to make three quick points (for fuller discussion see Kelsey 2006).

The first point is just that Aristotle nowhere says that this *aporia* turns on a failure to distinguish between form and matter. To be sure, there is a distinction that he says earlier thinkers failed to make, on account of which they fell into difficulties; very roughly, this is the distinction between holding 'unqualifiedly' (*ἀπλῶς*) or 'per se' (*καθ' αὐτό*), and holding only 'in a way' (*πῶς*) or 'incidentally' (*κατὰ συμβεβηκός*). But this is not the distinction between form and matter. Aristotle does not locate the error that led his predecessors into this *aporia* in their failure to distinguish between form and matter, nor does he appeal to any such distinction in the course of his solution.

The second point I want to make is that this is just what we should expect, inasmuch as the *aporia* in question is quite resistant to any such 'solution'. As Aristotle presents it, the *aporia* takes the form of a dilemma. Things must come into being either from something that 'is' or from something that 'is not', and both are impossible; nothing can come from what is, 'because it is already', and nothing can come from what is not, 'because there must be a subject' (*Phys.* i 8.191a27-31). This is the *aporia* that Aristotle says led his predecessors to think that coming into being is impossible; how is the posit of a pre-existent, persisting matter supposed to help? Either this matter 'is', in which case it 'is already', or else it 'is not', in which case it is not a 'subject'; either way we face exactly the dilemma posed by the original *aporia*. To be sure, it may well be that this dilemma is not particularly problematic; what after all is supposed to be the difficulty about things coming into being from something that already 'is'? However, if that is how it is—if the original *aporia* simply fails to get off the ground, because there is nothing problematic about the idea that things come into being from what already 'is'—then the idea that this 'being' not only 'is' but also *survives* will not contribute to the *aporia*'s solution. On the other hand, if (as I

myself think) the original *aporia* does get off the ground—if it really is problematic to suppose that things come into being from something that already is—then the point that things come into being from a persisting matter will not by itself be of any help in resolving it. For again, if this matter ‘is’, it will ‘already be’, and if it ‘is not’, it will not be a ‘subject’; to say in addition that it ‘persists’ does not bring us one bit closer to a way out of the original dilemma. If there really is a difficulty here, that difficulty still remains.

The third and final point I want to make is that it seems to me that the interpretation we have been considering has things backwards, inasmuch as hylomorphism is not meant to resolve the ancient *aporia* about coming into being, but is rather part and parcel of the very position threatened by it. This is because hylomorphism presupposes, what the *aporia* purports to show impossible, that substances come into being. For again, hylomorphism identifies, as principle and nature of ‘things due to nature’, both the matter or ‘subject’ from which they come into being and the form or kind we give an account of when we say *what it is* that this subject is becoming. Here, by ‘things due to nature’ Aristotle means, e.g., plants and animals and all the rest, and by matter and form he means specifically that ‘from’ which and ‘of’ which these things are and have come into being, ‘not incidentally but each what it is called in respect of its substance’ (*Phys.* i 7.190b17–20). In this way the doctrine presupposes that the ‘coming into being’ of plants and animals and the like really is the coming into being of *substance*—the very position that earlier thinkers were led by our *aporia* precisely to deny. If that is right, then hylomorphism, far from being the key to resolving that *aporia*, is of a piece with the position threatened by it.

### III

So far I have argued that a certain superficially attractive line of interpretation of hylomorphism is mistaken in several respects: about what the doctrine is, about where it innovates, about how it is argued for, about why it is important. But it is easy to be a critic. In the space that remains I want to say something in the direction of sketching an alternative.

I have already said wherein I think the doctrine innovates: not in the idea that there is a distinction to be made, within natural things, between their form and their matter, but rather in the idea that both matter and form are to be counted among the elements and principles of natural things—that both pertain to their very nature and substance. In what follows then I concentrate on how the doctrine is argued for, or rather (and somewhat more broadly) on how it is motivated. For I think that in an important sense the doctrine *is not* argued for, at least not directly, but is rather regarded as a kind of default. It is true that Aristotle thinks this default position was felt by earlier thinkers to be unavailable, on account of certain difficulties standing in the way of the idea that substance (or anything else that is unqualifiedly real)<sup>11</sup> could ever unqualifiedly come into

<sup>11</sup> The allusion is to *Phys.* i 7.190b1–2: αἱ οὐσίαι καὶ ὅσα [ἄλλα] ἀπλῶς ὄντα. The arguments

being. However, Aristotle's response to this dialectical situation is not to try to establish the default position, as it were in the face of these difficulties, by direct and positive argument, but rather to try to clear away the difficulties, on the assumption that once this is accomplished, the default position will thereby be restored of its own accord. So, rather than to try to reconstruct Aristotle's 'argument' for hylomorphism, I think it will be more illuminating to try to isolate and elaborate upon some of the broader considerations that lie behind it.

A little more precisely: as noted at the outset, it would be acknowledged by everyone that hylomorphism is in some way the product of reflection upon the nature of γένεσις; it is because Aristotle thinks that natural substances *come into being* that he thinks they are hylomorphic compounds (that both matter and form pertain to their very nature and substance). Can we be a little more specific about why? In particular, if the relevant considerations are *not* the ones that emerge from attention to how we speak about coming to be—e.g., the consideration that things that come to be are always 'subjects', or that, though one in number, they are never one in form, or that in any coming to be there is always something that remains—then which considerations are they? This is the question I try to get clearer about in what follows.

### III.1

I begin with some preliminaries to help focus the discussion. The first point I want to make is that the phenomenon of coming to be and change is a complicated affair for Aristotle, in at least two respects.<sup>12</sup> First, Aristotle thinks that there are two very distinct kinds of thing that change 'does' to a thing.<sup>13</sup> On the one hand, to change a thing is to *alter* it, to dislodge it from its former condition, to drive it out of its own nature;<sup>14</sup> considered from this angle, change's action on things is essentially destructive. On the other hand, Aristotle thinks, to change something is not only to turn it 'out' of its own nature, but also to turn it 'in' to something new; considered from this angle, change's action is essentially constructive, inasmuch as to change something is positively to make it into something (see, e.g., *Phys.* i 6.189a22–26). Second, and relatedly, corresponding to these two kinds of effect change has on things, Aristotle thinks, there are two kinds of thing it is to be a changing thing. That is, even if it is a single token that a given change is acting upon, there will always be two types of thing it is acting upon, namely, the type it destroys and the type it makes into something. So, for

made in the lines that follow are designed to show, not that substances *do* come into being, but rather that, assuming they do, they do so from some *subject* (ἐξ ὑποκειμένου τινός).

<sup>12</sup> For further discussion of the points made in this paragraph, see Kelsey 2008.

<sup>13</sup> Here and often in the text below I speak of change as if it were a kind of agent; this is just a device to keep my exposition less cluttered. The issue I am interested in is *what* Aristotle thinks *happens* to things when they change.

<sup>14</sup> See, e.g., *Phys.* iv 12.221b3 (ἡ κίνησις ἐξίστησι τὸ ὑπάρχον), 13.222b16, b21 (μεταβολὴ πᾶσα φύσει ἐκστατικόν), vi 5.235b9–12 (τὸ μεταβάλλον ἐξ οὗ μεταβάλλει ἐξίσταται). Also *Phys.* viii 7.261a20 (locomotion makes the least departure from substance as compared with the other kinds, namely, alteration (on which see *Top.* vi 6.145a4, a10) and growth).

example, if somebody is being taught something or other, even if there is just one token individual the teaching is acting upon, namely, the somebody in question, there are two types of thing it is acting upon, one each answering to the two different types of effect that teaching has on things: for it is one kind of thing that teaching makes educated or cultured, namely, human beings, but another kind of thing that it wrecks or destroys, namely, the ignorant.<sup>15</sup>

Where in this complexity should we look for the considerations that lie behind Aristotle's hylomorphism? Not, I submit, in the idea that change always has these two effects on things, one constructive and one destructive. For as we have seen, although Aristotle thinks that this idea argues a kind of duality in changing things, it is not *this* duality that is characteristic of hylomorphism. (Again, the 'two' here are matter and privation, which are one 'in number'; by contrast, the elements of a hylomorphic compound are matter and form, which are one 'in being'.) If that is right, then we are much more likely to find the considerations that lie behind Aristotle's hylomorphism by looking at how Aristotle conceives of change's specifically *constructive* action on the kind of thing it positively makes into something. It is this kind of thing that Aristotle calls matter, and that he thinks enters into (but does not exhaust) the definition of natural kinds.

### III.2

We may then put our question in this way: what does Aristotle think change *does* to matter in making it into things? And what has this to do with the idea that certain products of change—namely, natural substances—are hylomorphic compounds? I take these questions in turn in this section and the next.

It will help in getting a feel for the first question to have a foil. To that end, consider the familiar idea that in any coming to be there is always something of the original situation that survives (call this 'matter'). One way of developing this idea would be to draw on it in spelling out what change does to matter in making it into something. If we developed the idea in this way, the result would be that it is the very essence of matter to survive change intact, and correspondingly, that it is the very essence of change's constructive action upon matter to ensure that it does so. We could put such a view in this way: what change does to a thing, in making it into something, is precisely *conserve* it.

To my way of thinking this view is a manifest non-starter, but it is worth spelling out why, as this will help bring our question into sharper focus. To say that in any change there is always something that survives is to say that there is always something of the changing thing that is the *same* both before the change and after it; in other words, it is to say that there is always something of the

<sup>15</sup> This is the point Aristotle is making in the first half of *Physics* i 7, when he says that τὸ γιγνόμενον is never 'one' sc. in form or kind (see 190a14-16, b11-13). His point is not merely that there is more than one way to describe any changing thing, but rather and more powerfully that there are two types of thing it is precisely to be a changing thing, namely, the type the change destroys (which is always some kind of 'opposite') and the type which it makes into something (which is always some kind of 'subject').

changing thing that in some respects the change leaves *unchanged*. Now, no doubt this is often true; but even supposing that it is always true, and necessarily so, it is difficult to see how it could it be anything but incidental to the nature of what change does to things. To say that it is the business of change to conserve something of what it acts upon is to say that one of the things change does to things—and not just something it happens to do to them, but part of what it is for it precisely to change them—is to leave them unchanged. The problem with such a view is that it posits as the very nature of change what is in reality its antithesis. Consider again the example of someone changed by teaching. We may allow that teaching does not in fact destroy his humanity. But is it at all natural to suppose further that this is precisely what it is the business of teaching to *do* to a human being—to ensure, not just that his ignorance is destroyed, but that his humanity is left intact? The fact is that there are countless things we can count on teaching to leave unchanged, shape and sex and so on; are these too then kinds of material that teaching works upon? Or is it rather that there is something that teaching *does* to a person's humanity, that it does not do to his shape and sex, e.g., cultivates it? That is, whatever it is that teaching does to a person, apart from destroying his ignorance, it is not simply to leave his humanity *unchanged*. To put the point more generally, and as a point now of interpretation: whatever Aristotle thinks change does to a thing, he does not think that it is in the business of leaving it *unchanged*.

The question then is whether there is some other, better way to characterize Aristotle's conception of what change does to matter in making it into things. In thinking about this I propose that we take our lead from the following passage from *Physics* i 7:

But that even substances, and howsoever many other things are unqualifiedly, come to be from an underlying subject, would become evident to one who looks into it. For there is always something that underlies, from which what comes into being [comes into being], e.g. plants and animals from seed. (190b1-5)

This passage has seemed problematic to some, because seed is not something that the generation of plants and animals appears to conserve, even incidentally (for a recent discussion, see Horstschäfer 1998, 304-308). But what then does change do to a seed, in making it into a plant or an animal? Here I think a fairly intuitive answer suggests itself. To make a seed into a plant is not to destroy or preserve it, but positively to improve it. In other words, it is not to 'drive it out of its own nature', nor to leave it in a nature it already has, fully and completely; rather it is to develop it into a nature it already has—not of course 'in activity' (ἐνεργεία), but 'in power' (δυνάμει).<sup>16</sup>

In developing this suggestion, the first point I want to make is that as a matter of interpretation its credentials are very good. This is especially true in the case

<sup>16</sup> For these translations of δυνάμεις and ἐνέργεια, see now Beere 2003.

of substantial change, which is the case that matters for Aristotle's doctrine of hylomorphism. The idea is perhaps most explicit in the following passage, taken from *Metaphysics* ii 2:

For one thing comes 'from' another in two ways—not as one thing is said to come *after* another (e.g. 'from the Isthmian the Olympian'), but either [i] as *from a boy, a man*, the boy changing, or [ii] as *from water, air*. We say that [i] as from a boy there comes to be a man, as from what is becoming, what has become, or as from what is being completed or fulfilled, what has been completed. (For just as coming-to-be is always between being and not-being, so too what is becoming is between what is and is not; for the one learning is becoming knowledgeable, and *this* is what is being said [when we say] that from learning he comes to be knowledgeable.) But [we say that] [ii] as from air, water, when the former is being destroyed. (994a22-31)

In this passage Aristotle draws a contrast between two ways of coming to be 'from' something, and correspondingly between two sorts of thing coming to be is from: the kind that is 'being completed or fulfilled' (ἐπιτελούμενον) and the kind that is 'being destroyed' (φθειρόμενον). The former is the idea we were looking for, and it is clearly visible in other passages as well. So, for example, in *Physics* ii 1 Aristotle says of 'nature', in the sense of the word in which it means 'coming to be' (γένεσις), that it is 'a path into nature' (ὁδός ἐστιν εἰς φύσιν, 193b13; cf. *Top.* vi 2.139b20); later in viii 7 he says of the changing thing that it is 'something incomplete and going towards completion' (φαίνεται τὸ γιγνόμενον ἀτελὲς καὶ ἐπὶ τέλος ἰόν, 261a13).<sup>17</sup> Again, in *Physics* i, there is first the passage from which we began, in which Aristotle gives seed as the subject from which plants and animals come to be (190b3-5), and also another passage in i 9, where he speaks of matter as 'yearning' and 'reaching out' for what it becomes—language that fits very nicely with the idea that change is in the business of *developing* matter into its own nature (192a18-21).

The suggestion then is that Aristotle conceives of the nature of change's action on the kind of thing it makes into something in fundamentally developmental terms. That is, he thinks of the constructive side of change as in the business, not of taking the materials on which it operates and dislodging them from or leaving them in a condition they began by exemplifying perfectly well, but rather of moving them *towards* a condition they began by exemplifying only imperfectly. Not only is this something Aristotle certainly does think, but also it has a certain intuitive pull to it, inasmuch as it makes distinctions that are both real and important. To develop a thing really is to change it—it is not merely to leave it alone, *unchanged*. But it emphatically is not simply to 'corrupt' or 'destroy' it. It is one

<sup>17</sup> To these passages may be added certain others, in which Aristotle speaks of coming to be as a kind of 'completing' or 'perfecting' (τελείωσις) of the changing thing (see *Meteor.* iv 2.379b21; *GA* iv 2.767a22).

thing for a seed to become a plant, another for it to wither or decompose from dry or rot; these changes differ not merely in their final products, plant and earth, but also so to speak in the direction they move their subjects: for seeds, growth does not spell ‘ruin’ or ‘destruction’ (φθορά), as rot does, but rather development (φύσις, in the sense in which it means γένεσις). The same is true in the case of Aristotle’s model for natural change, the manufacture of artifacts, where you might have thought the idea of conservation gets a better hold; you do not wreck lumber by building it into a house, any more than you spoil thread by weaving it into cloth; nor do you positively make something of either by burning them, except as a joke (the point is not altered by the fact that their destruction leaves a residue).<sup>18</sup> Lumber and thread are kinds of material that are precisely for being made into things; the changes whereby things are made from them do not spell for them destruction, but rather a kind of development or fulfillment.<sup>19</sup>

### III.3

Suppose this much is right: Aristotle conceives of the nature of change’s ‘constructive’ action on what he calls ‘matter’, not as a kind of conservation or destruction, but as a kind of development. How does this bear on the doctrine of hylomorphism? As I understand it, the doctrine’s real innovation lies in maintaining that both matter and form pertain to the very nature and substance of natural things—of plants and animals and their parts, and the so-called simple bodies and mixtures of them and so forth. This is by contrast with the alternatives to hylomorphism that Aristotle envisages, according to which the nature and substance of these things are exhausted entirely either by their matter or by their form. In what follows I suggest that neither of these alternatives to hylomorphism squares very well with the idea that coming to be is a kind of development.

Consider first the position that the nature and substance of, e.g., plants and animals is exhausted by that of the materials from which they come to be. Such a position implies that these materials are complete and fully-fledged kinds of substance in their own right. But this is incompatible with the idea that the processes whereby they become plants and animals are processes whereby they are developed. For given that these materials are themselves kinds of substance, the only way to develop them into their own nature will be to develop them into some

<sup>18</sup> To be clear, the point is not that every change must be one or the other, a destruction or a development; on the contrary, even if the development of one thing is always the destruction of something else, and vice versa, and even if there is no saying which of the two the change ‘really’ is, the point is just that the *kinds* of thing a change destroys and develops will be different, just as development and destruction themselves are different (not ‘in number’ but ‘in kind’). (For the idea that the generation of one thing is always the destruction of something else, and vice versa, see *GC* i 3.318a23-25; for the idea that some changes are more generation than destruction, and vice versa, and why, see *GC* i 3.318a27-319a3.)

<sup>19</sup> Here it might be objected that it is a stretch to view the manufacture of artifacts through the lens of the growth and development of living things, as I do in the text above. Though this may ultimately be correct, the stretch is useful for understanding Aristotle’s conception of the nature of and problems around the coming-into-being of natural substances.



kind of substance (indeed, of the very kind they already are). But this is impossible if they already are perfectly good substances in their own right.

The underlying principle here is a perfectly general one: things that already are perfectly good substances are not further developable in the dimension of substance—for *ex hypothesi* they already are substances, perfectly good ones.<sup>20</sup> Note that this is not to say that individual substances cannot in fact be turned into other substances, e.g., that tables cannot be turned into chairs, or water into air, or horses into dogs; for Aristotle, some of these changes do happen, and others very well might have.<sup>21</sup> The point is rather that none of these changes will *develop* the substances they are from—will be for them a ‘passage into being’ (ἀγωγή εἰς οὐσίαν), a ‘path into nature’ (ὁδὸς εἰς φύσιν, *Top.* vi 2.139b20; *Phys.* ii 1.193b13). In the first place, such changes would turn these things away from ‘being’ and ‘nature’, inasmuch as they will destroy them. But even apart from that, it is also the case that *if* tables and horses and air really are perfectly good kinds of substance, then no process that turns them into other substances will make them more substances than they already are, just by being tables or horses or air—any more than such a process would make them more furniture, or more animal, or more ‘body’ (σῶμα).<sup>22</sup> Tables and horses and air cannot be *developed* into furniture and animals and body, for the simple reason that they already *are* furniture and animals and body (in Aristotle’s language, ‘these belong already’ (*Phys.* i 8.191b22–23)). And the same is true for the kinds of substance—whatever they are—that come to be animals and plants on the position we are considering. This coming to be cannot be a development of these substances; no substance can develop into a substance, without thereby undermining its claim already to be a substance in the first place.<sup>23</sup>

Let us turn then to consider the other, Platonist position, that the nature and substance of plants and animals and so on is exhausted by their respective forms. This position is more difficult to assess with confidence, in part because it is considerably more obscure. But I think it is worth exploring all the same. As a fixed point I will take the hallmark of this position to be that the material from which things come into being does not enter at all into the specification of their substance and nature. How then are we to conceive of this material? Abstractly considered, one possibility is that it is a fully-fledged kind of substance or being in its own right, different from the kinds it is in process of becoming. But this

<sup>20</sup> For the role of this principle in the old *aporia* about coming to be discussed in *Physics* i 8, see Kelsey 2006.

<sup>21</sup> ‘horses into dogs’: the example is taken from *Physics* i 8.191b19–25.

<sup>22</sup> I do not presuppose that being a substance is an ‘on or off’ affair: that you are a substance either fully and completely or not at all. The point is only that *if* you already are a substance fully and completely, *then* you are not further developable into one.

<sup>23</sup> Note that this explanation of why it is not in the nature of matter to be substance makes no mention whatever of the idea of conservation; that is, it says nothing about whether a substance could survive a substantial change, but only about whether it could be the kind of thing that is developed by one. The suggestion is that it could not, as this would undermine its claim already to be ‘full-up’ in the dimension of substance.

throws us right back on the difficulties we were just considering, that no kind of substance can be developed into a substance, because *ex hypothesi* it already is one. Another possibility, closer I think to Aristotle's own understanding of the position, is to conceive of the material in question as no kind of substance or being at all—as a kind of non-substance or non-being (see, e.g., *Phys.* i 9, discussed above). However, even setting aside concerns about whether such a thing could come to be anything, because it is not a 'subject' (ὑποκείμενον), there is the further problem that even if it could, it is difficult to see how the process whereby it did so could be regarded as *development*; as Aristotle complains in *Physics* i 9, the result would be that 'the opposite is reaching out for its own destruction' (192a19-20): that is, the process that is supposed to be a development of this non-being in fact spells its destruction. Nor, finally, does it seem much help to consider a third possibility, akin to Aristotle's own position, according to which the material in question is some kind of intermediate between substance and non-substance, being and non-being. For the process whereby such a thing is coming to be a fully-fledged being will only be a *development* of it if the being it is in the process of becoming is the *same* kind of being that it itself already is, albeit only partially and incompletely. But it is precisely this that seems ruled out by the fixed point from which we began, that the nature of the material in question does not enter at all into the specification of the kinds of being it becomes; if it already were a being of the kinds it is becoming, the specification of its nature would be included in the specification of theirs.

In sum, neither of the alternatives to hylomorphism that Aristotle considers appears to square with the idea that coming to be is a development of the material it makes into things. In fact, I do not think it would be too far off to characterize Aristotle's criticisms of his predecessors in just these terms: neither the Presocratics nor the Platonists succeed in doing justice to the fact (as Aristotle sees it) that the fundamental processes of nature are essentially a development of the subjects on which they operate, in the sense of being not indifferent or antagonistic to their respective natures, but rather such as to bring them to fulfillment.

### Conclusion

I have presented and criticized a certain interpretation of Aristotle's doctrine of hylomorphism as developed in the *Physics*. The interpretation is in part a view about how the doctrine is argued for, in part a view about where it innovates, and in part a view about why it is important; I have argued that the interpretation is mistaken on all three counts. Hylomorphism does not innovate just in distinguishing between matter and form; it is not argued for by appeal to the idea that in any coming to be there must always be something of the original situation that survives; it is not important because it is crucial in the solution of the *aporia* about coming to be which so troubled Aristotle's predecessors.

I have argued instead that hylomorphism is primarily a doctrine about principles and about nature; its innovation lies in the idea, not that form and matter are distinct from one another, but that *both* pertain to the very nature and substance

of the things they compose. I argued further that this idea is not crucial to Aristotle's solution to the ancient *aporia* about coming to be; on the contrary, it is part and parcel of the position threatened by that *aporia*, inasmuch as it presupposes that natural substances do come into being. Finally, I suggested that although hylomorphism is in some sense based on reflections upon the nature of coming to be—it is because natural substances come into being that they are hylomorphic compounds—the key idea is not that in any coming to be there is always something that survives, but rather that in any coming to be there is always something that is developed. It is this idea, I argued, which the alternatives to hylomorphism as Aristotle sees them are unable to capture, and it is this idea, I suggest, which explains why he thinks the doctrine so rich in its implications for the systematic understanding of nature.

I have not said anything about how hylomorphism figures in other Aristotelian texts. Though I certainly would like to think that the suggestions made here will throw the issues at stake there in a new and interesting light, that is work for another time.<sup>24</sup>

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