

Abstract: Hylomorphism is the Aristotelian theory according to which substances are composed of matter and form. If a house is a substance, then its matter would be a collection of bricks and timbers and its form something like the structure of those bricks and timbers. It is widely agreed that matter bears a mereological relationship to substance; the bricks and timbers are parts of the house. But with form things are more controversial. Is the structure of the bricks and timbers best conceived as a part of the house, or is it related to the house in some non-mereological fashion? Kathrin Koslicki argues that substances have formal parts, that forms are best conceived as bearing a mereological relation to substances. This paper shows that her argument fails, given the traditional and plausible distinction between substances and accidental unities. I close with a brief suggestion for a non-mereological construal of forms.

1. Introduction

Contemporary hylomorphists claim, following Aristotle, that substances—human beings, oak trees, and chemical compounds—are composites of matter and form. While it is controversial whether or not Aristotle thought of both matter and form as numerically distinct constituents or parts of a substance, many contemporary hylomorphists do.¹

Some contemporary hylomorphists posit the existence of prime matter, a featureless stuff underlying all change that exists ‘below’ the level of the natural world, but many take matter to be a collection of

¹ Kit Fine (1992), Sally Haslanger (1994), Kathrin Koslicki (2006), Frank Lewis (1991, 1995), and Michael Loux (2005, 2006) defend the traditional constituent interpretation. Opponents include Mary Louise Gill (1989), Edward Halper (1985), Areya Kosman (2013), Theodore Scaltsas (1994), Wilfred Sellars (1967), and Michael Wedin (2000). Contemporary hylomorphists that defend a constituent view of matter and form include Kit Fine (1999), Robert Koons (2014, 2018), Kathrin Koslicki (2008, 2018), David Oderberg (2007), Eleonore Stump (1995), and Patrick Toner (2013). Those who deny that forms are parts or constituents of substances include William Jaworski (2016), Mark Johnston (2006), Anna Marmodoro (2013), Michael Rea (2011), and Christopher Shields (2019). The divide between constituent and non-constituent hylomorphism tracks, for the most part, the divide between so-called *principle-based* and *powers-based* hylomorphism. Johnston (2006) is an exception, as he takes forms to be principles of unity but denies that they are parts or constituents of substances.

ordinary things or material parts.² On the latter view, the matter of a house would be a collection of bricks and timbers. Showing that matter so conceived is a part of substances is fairly unnecessary; we know what bricks and timbers are, and we have an intuitive sense of how they're parts of houses. But many hylomorphists claim that there is more to a house than bricks and timbers, that another part of a sort quite different than the bricks and timbers exists, and that this is form.

What Aristotle took a form to be is unclear and controversial. But contemporary hylomorphists of the sort I'm considering take forms to be 'structures,' 'formal recipes,' or 'principles of unity,' entities whose primary role is to ensure the unity of the substances of which they're parts. Some flesh these labels out more thoroughly and clearly than others, but, for the most part, forms are fairly strange entities. Intuitively, when we count the parts of a house, we don't count all of the bricks and timbers and *then one more thing*, the form or structure of the house. Carpenters build *according to* blueprints, but it is not obvious that they put blueprints *in* houses. So, the hylomorphist needs to provide good grounds for believing in the existence of formal parts.

Kathrin Koslicki (2008: 179-183, 2018: 113-119) has offered such an argument, and a number of hylomorphists have rallied around her, defending the existence of formal parts. In this paper I show that Koslicki's influential argument has a narrower scope than it is often thought to have. Her argument supports the existence of formal parts in what Aristotelians call *accidental unities*, things like wise-Socrates and tan-Plato, but does not support the thesis that *substances* have formal parts.³ My argument does not impugn hylomorphism generally though, and so I counsel contemporary hylomorphists to explore non-mereological conceptions of form.

² For discussion of various contemporary hylomorphic conceptions of matter, see Koslicki (2018: ch. 2). For discussion of prominent medieval conceptions of prime matter, see Adams (1989: chs. 15-16).

³ Some hylomorphists believe that accidental forms are parts of substances, not accidental unities, e.g., Skrzypek (forthcoming). But this is controversial. In what follows, I suppose that, if accidental forms are parts, then they are parts of accidental unities, not substances. For further discussion, see Brower (2014: ch. 2). Thanks to an anonymous reviewer for pointing this important detail out.

The rest of the paper is split into three main sections: I explicate Koslicki's hylomorphism and her argument for formal parts, show that her argument fails to establish the existence of formal parts in substances, and then diagnose the failure and suggest a way forward for hylomorphists.

2. The Existential Case for Formal Parts

Kathrin Koslicki has defended hylomorphism on two fronts: as an account of restricted composition (2008) and as a metaphysical account of substances (2018). On both fronts, she has argued that forms are proper parts of substances in just the same way that material parts are proper parts of substances (2008: 179-186, 2018: 114-119). So, an inventory of, say, a house, is complete only when we count all of the bricks and timbers serving as its matter and one other item, the form of the house.

Koslicki is fairly ambivalent about the ontological status and nature of forms. She has claimed that forms are object-like, but also very much like relations (2008: 252-254). She has claimed that they seem like universals (2008: 257-258), but has more recently argued that they are particulars (2018: 76-103). But she is perfectly clear on what forms *do*, and *how* they do what they do. Principally, her forms unify material parts into a single substance, and they do so by acting as *formal recipes*. A formal recipe is something like a set of criteria that a collection of material parts must satisfy so as to compose a distinct and unified substance of a kind corresponding to the recipe. She writes (2008: 169):

[W]e may think of the formal components associated with a particular kind of whole...as the sorts of entities which provide “slots” to be filled by objects of a certain kind: thus, the formal components belonging to a particular kind of whole will generally specify not only the *configuration* to be exhibited by the material components in question, i.e., how these objects are to be arranged with respect to one another; they will also usually specify the *variety* of material components of which the whole in question may be composed, i.e., what sorts of objects can go into the various “slots” provided by the formal components. (emphases original)

So, forms are something like blueprints that matter must follow to result in a new and unified substance. We have a house—something we can shelter in, something that is one and not many, something that can survive

a change in parts—only when the bricks and timbers are structured a certain way, only when the formal recipe for a house is followed and so present to some matter.

Koslicki calls the view that substances have forms as proper parts the *Neo-Aristotelian Thesis* (NAT). Christopher Tomaszewski (2016) and Patrick Toner (2013) have explicitly defended Koslicki's argument for NAT, and I suspect that otherhylomorphists endorse it too. Koslicki's argument for NAT, in broad outline, is as follows.

Consider a lump of clay, and suppose, for the sake of argument, that it is a single thing.⁴ The lump of clay can be a part of something else, say, a statue. The lump and the statue are distinct because they have distinct modal profiles and different historical properties. The lump can survive being smashed but the statue cannot, and the lump of clay existed prior to the statue.⁵ So, there is one thing—the statue—that has another thing—the lump of clay—as a part. But we have very good reasons to endorse the mereological principle of *weak supplementation*: if there is some x that is a proper part of y, then there must be some z that is distinct from x and y that is also a proper part of y. The basic and intuitive idea behind this principle is that if something really has a part, it must have at least one other part: the idea of having only one part simply flouts the notion of parthood.

So, given that the clay and the statue are distinct objects, and that the clay is obviously a part of the statue, weak supplementation forces us to find or posit another part of the statue. But what could the other part of the statue be? What could there be to the statue besides the lump of clay? Given that the clay exhausts the material components of the statue, Koslicki claims that this other part is form. Forms are proper parts of

⁴ Koslicki's argument has been criticized by Karen Bennett (2011) on the grounds that, even though the lump is a single thing, it may nonetheless have parts itself, and it is most plausible that these parts, not the lump itself, serve as the matter of the statue. But Koslicki's argument has been retrofitted by Patrick Toner (2013: 153-155) so as to avoid Bennett's critique. I register this point about the debate here, but pass over it for now, until I take it up in the next section.

⁵ Simon Evnine (2016: 78-82) offers a detailed and nuanced discussion of these and other considerations that serve to distinguish things like lumps of clay and the objects they constitute.

substances because countenancing their matter alone violates weak supplementation, a principle of mereology we ought not to reject.⁶

3. Against Formal Parts

There are a number of ways to resist the argument for NAT. One could be a mereological nihilist and deny that there are any things with parts. Or one could reject weak supplementation. But these are controversial moves that I don't think we need to make.

To begin to see this, we need to highlight an important distinction between *substances* on one hand, and *accidental unities* on the other. Paradigmatic examples of substances include things like human beings, oak trees, and chemical compounds. While there are various accounts of what makes or counts something as a substance, for Koslicki (2018: ch. 7) and other hylomorphists (e.g., Brower 2014: 25-27), the primary criterion for substancehood is unity.⁷ Or, more minimally, many hylomorphists take it that substances are marked by a special sort of unqualified unity, traditionally called *per se* unity. What, exactly, *per se* unity amounts to needn't concern us here, only the idea that such unity is *unqualified* and *intrinsic* to substances. A human being is one thing, unified, full-stop, and is so because of what it is in itself or something intrinsic to it, not because of something imposed on it from without.

Accidental unities, in contrast with substances, are a class of entities that fail to enjoy *per se* unity. Paradigmatic examples include artifacts like statues, hammers, and chairs, and compounds of substances and certain properties, such as sitting-Socrates and tan-Plato.⁸ Statues, hammers, and chairs are unified in a sense, inasmuch as the material parts composing them are unified, perhaps even unqualifiedly so. But the functions these artifacts are intended to carry out are imposed from without, and so, qua matter and some extrinsically-

⁶ Koslicki (2008: 176-186) goes to some length to defend the thoroughly mereological approach to matter and form she adopts. While some may find it troubling upfront, I am happy to grant her this mereological approach for the sake of argument.

⁷ Within the Aristotelian and Neo-Aristotelian traditions, ontological independence and subjecthood are the two competing criteria. See Koslicki (2018: ch. 6) for further discussion.

⁸ For further discussion of accidental unities, see Brower (2014: chs. 1-2), Loux (2012), Matthews (1982), and Rea (1998). Koslicki is skeptical that there are such things as accidental forms and accidental unities, but this skepticism simply writes off my argument. So, inasmuch as one is inclined to accept the substance–accidental unity distinction, as most hylomorphists are, then I believe my argument is worth taking seriously.

imposed functional property, artifacts like these are metaphysical compounds, not unqualified unities.⁹ And the same goes for sitting-Socrates and tan-Plato; they are compounds or heaps of a substance and a property. So, accidental unities are to be contrasted with substances inasmuch as the unity that characterizes the former is qualified and extrinsically sourced, while the unity characteristic of the latter is unqualified and intrinsic. A human being is one thing, full-stop, while a sitting human being, qua something sitting, is not.¹⁰

With this distinction in mind, notice that Koslicki's argument for NAT focuses on artifacts. The lump of clay composes a statue, an *accidental unity*, not a substance. But, given the distinction between substances and accidental unities, why attempt to prove the reality of formal parts in substances by appealing to an argument that focuses on accidental unities?

The reason for Koslicki's focus on artifacts is that her argument just doesn't seem to work with substances. If we try to run the argument with a substance instead of an artifact, we don't get formal parts. Consider again the lump of clay. What distinct *substance* can the lump of clay partly compose, that is, what substance can the clay alone serve as the matter of? No answer is forthcoming. We cannot take the lump, and no other material parts, and fashion a distinct substance from it. Sure, we can configure the clay in various ways, and impose various functional properties on it, but this results in an *accidental unity* for which the clay serves as matter. We can even *transform* the clay into a distinct substance, say, by throwing it into a kiln or a vat of acid. But this would *destroy* the clay, and so, prevent it from serving as the matter of anything. And if

⁹ Note that endorsing this distinction as I am presenting it does not force one to deny that *any* artifact is a substance. If an artifact is, say, something created by art, then there could be artifactual substances, for example, Einsteinium. For further discussion from an Aristotelian perspective, see Rota (2004); cf. *Physics* 192b9-23 and *Metaphysics* 104319-24, where Aristotle airs his suspicions about the substancehood of certain artifacts.

¹⁰ Another way to get at the distinction between substances and accidental unities is by a consideration of essence or nature. Famously, and cryptically, Aristotle (*Metaphysics* Z.4-6) claims that substance is essence. One plausible interpretation of this identity claim is that having an essence is what accounts for a substance being a substance (see Cohen 2008, Loux 1991: ch. 5). So, only things with essences are substances. Compare Socrates and wise-Socrates. Socrates seems to have an essence—rational animal—but wise-Socrates doesn't, or, if he does, he does so only in an extended sense, and in reference to Socrates. More colloquially, when we think of what it is to be wise-Socrates, we think of Socrates's essence: a sitting *rational animal*. Relatedly, Aristotle (*Physics* 192b9-23) takes it that only substances have natures—internal principles of behavior—and that things like statues, chairs, and other artifacts do not. Since a statue seems to lack unique causal powers over and above the material it is made of, and wise-Socrates lacks a nature (at least over and above the nature of Socrates), these entities accidental unities, not substances.

the clay does not serve as matter for another substance, then weak supplementation can't kick in so as to point to the reality of a formal part.

Koslicki (2008: 179, n. 16) does provide what she takes to be an example of a *substance* with a single material part in passing. She suggests that a zygote can, by itself, constitute or serve as the matter of a human being. But this example is unconvincing. Per Koslicki's argument, a substance and its matter have different modal profiles: the clay can survive being smashed but the statue cannot, hence, the two are distinct. But there seems to be no difference between a zygote and the human being it purportedly constitutes. The human being supposedly distinct from the zygote does not obviously think, will, or do anything else that could distinguish it from the zygote. In other words, it's unclear that we have *both* a zygote and a human being. And if there's no human being in addition to the zygote, then there is no substance for which the zygote serves as matter.

What about a difference in historical properties? We've got three options: the human being exists before the zygote, the two come into existence at the same time, or the zygote exists before the human being. The first option is hard to wrap one's head around, and implies the human being serves as the matter for the zygote, which gets things backwards. The second option doesn't secure a difference in historical properties, and so, won't work. And while the third option is initially plausible, it runs into trouble too. For, whenever it seems plausible to suggest that a human being exists, it is no longer plausible to suggest that a zygote exists too. The zygote and the human being are distinct substances, but they are also *disjoint* substances: when one exists, the other does not. Of course, the zygote is one step in a process that results in a human being—the zygote is *potentially* a human being—but it does not *actually constitute* a human being; when the human being comes into existence the zygote no longer exists. And what doesn't exist cannot serve as the matter for anything.

You might insist that a zygote is, or at least is very intimately related to, a human being—a nascent human being, but a human being nonetheless. For, the zygote was caused by *human beings*, and will become a *human being*. What else could a zygote be? If this is right, then when the zygote exists, a human being exists

too, and so, the former can serve as the matter for the latter. In other words, if we think that a zygote is, in a way, both a zygote and a human being, then perhaps a constitution or matter relation can hold between the two.¹¹

I believe that there are two ways to flesh out this line of thinking. First, we might think that the zygote is a *phase* or *stage* of the human being. That is, ‘zygote’ is a phase sortal. On this approach, both the zygote and the human being exist—the former is a phase or stage of the latter—and so, the zygote is, ontologically, ‘on scene’ to serve as matter for the human being. The issue I see with this route is that it just doesn’t seem plausible to suppose that a phase or stage of a substance constitutes or serves as the matter of that substance. When a squirrel gathers acorns, they do not gather both acorns *and* oaks. When the police break up a high school party, they do not disperse both teens and human beings. If a zygote is a human being insofar as the former is simply a phase of the latter, then the relation between the two can’t be one of constitution. Koslicki needs the zygote to be related to the human being as a brick is related to a house, but this is not how the two seem to be related. Put differently: if A constitutes or serves as the matter of B, then A does so *occurently*; but if A is just a phase or stage of B, then A is just *dispositionally* B.

The second option is to say that a zygote is a human being, where the two are distinct substances, and the ‘is’ is the ‘is’ of constitution. So, there is one substance, the zygote, that constitutes or serves as the matter of another substance, the human being. Perhaps there’s no thinking or willing that grounds our positing of the human being in addition to the zygote, but we’re just convinced that the zygote is a human being. On this route, we obviously get two substances and a constitution or matter relation. But we also seem to get widespread object coincidence and causal over-determination. Conception yields two substances: a zygote and a human being. And if the zygote is a substance in its own right, then other developmental phases of a human being ought to be substances in their own right too. When the police arrest a teen at a high school party, they make two arrests: they arrest a teen and a human being. (Just think of all the extra

¹¹ Thanks to an anonymous reviewer for pushing me on this point.

paperwork!) But this seems wrongheaded. While Koslicki and other hylomorphists could go this route, the costs of doing so just seem too high.

If cases with artifacts aren't of the right kind, and the zygote-human being example doesn't work, might proponents of formal parts rely on any others? What about, say, a mass of cells and the fully-developed human being it serves as the matter of? Might a mass of cells be the single material part that constitutes a human being? A mass of cells doesn't think or will but a human being does, and it appears that a mass of cells can survive the passing of the human being it constitutes, at least for a brief period of time. For this case, and others like it, to work, a mass of cells needs to be a *single* thing, *the* material part that constitutes or serves as the matter of a human being. There are two ways to understand a mass of cells as a single thing: (i) as a mereological simple, as a material object with no parts; or, (ii) as a token or instance of some kind. The first route is implausible. A mass of cells has parts, parts that are substances in their own right. We can point to biological, chemical, and physical bits making their own the mass. While the mass of cells is certainly a unity of some kind, this unity is too weak to be understood as a case of mereological simplicity. Set (i) aside.

(ii) Suggests that a mass of cells is a single thing because it is an instance of a kind, a kind, we're supposing, we have good reason to countenance. So, the idea is that we believe in the existence of things like masses of cells, and so, as tokens of the kind, particular masses are individuals, single things. Now, Koslicki (2008: 192-198) makes a move like this, though not explicitly with this example. She claims that it is the job of the ontologist, drawing on empirical science and commonsense, to tell us what *kinds* of things exist. So, perhaps science and commonsense tell us that masses of cells exist. But for any kind whose members are treated as individuals or single things, we can ask: are members of the kind accidental unities or substances? Is a mass of cells an accidental unity, like a statue or wise-Socrates, or is it a substance, like an oak tree or molecule? If a mass is an accidental unity, then Koslicki's argument won't go through. First, accidental unities seem to lack the sort of unity to be treated as genuine individuals. As Anna Marmodoro (2017: 119-120) says, masses, heaps, and other accidental unities are 'numberless' inasmuch as it is unclear how to count them. A mass of cells might be *one* thing, but it might be *many* things; if a mass can be treated as one thing, then so too can its component parts. And if the parts of a mass may be treated as individuals just as much as the mass

itself can be treated as an individual, then it is unclear how we can privilege the individuality of the mass. Second, we don't fashion substances out of accidental unities. We cannot take wise-Socrates and fashion a substance out of him. Nor can we take a statue and turn it into a distinct substance while keeping the statue in existence. If this is right, then the mass of cells, qua accidental unity, just isn't the right sort of thing to serve as the matter of the human being, at least if we're to treat it as an individual.

This all means that the mass of cells, qua individual of some kind, must be treated as a substance. Unfortunately, it just isn't clear that a mass or heap can be treated plausibly as a substance. A human being is a paradigmatic example of a substance. Does a mass of cells enjoy the sort of unity that a human being does? No. Human beings, like other substances, seem to possess novel powers that their parts do not, for example, free-will (see Toner 2008). Does a mass of cells possess novel powers over those possessed by its parts? No. So, it just seems implausible to treat a mass as a substance.¹² Since Koslicki's argument depends on cases where a single material part constitutes or serves as the matter of a substance, and a mass cannot be construed plausibly as an individual or single thing in the requisite sense, I think her argument for NAT fails to show that substances have formal parts.

While this has all been rather negative, it isn't the whole story. There are plausible examples in which a single thing serves as the matter for a distinct being. It is just that this distinct being is not a substance. Consider Socrates. I believe there is just no plausible example of a *substance* distinct from Socrates (or any other single substance) that he can, all by himself, serve as the matter of. But there are plenty of plausible examples of *accidental unities* in which Socrates serves as matter. What can Socrates, all by himself, serve as the matter of? Well, he can serve as the matter of wise-Socrates, tan-Socrates, and ugly-Socrates, among numerous other things. These are all entities distinct from Socrates: Socrates by himself is neither wise nor ignorant, but wise-Socrates and ignorant-Socrates are both distinct from Socrates by himself. Socrates has a modal profile distinct from wise-Socrates: the former can survive a brain lesion but the latter cannot. And

¹² Koslicki could loosen her notion of substance so as to treat things like masses and heaps as substances, and so, make her argument go through. But this move comes with serious costs. I discuss this option more below.

Socrates and wise-Socrates have different historical properties: the former came into being at time $t1$ and the latter came into being at time $t2$.

What does all this mean for the argument for NAT? It means that it proves the existence of *accidental formal parts*, forms that modify an ‘already-formed’ substance. Since Socrates is the single material component of wise-Socrates, Koslicki’s argument suggests that the latter has a formal part, the form of wisdom. Initially, this might seem like too big of an admission for an opponent of formal parts. Patrick Toner (2013: 154) argues that if we at least get the possibility of formal parts in-hand, if we can show that conceiving of structures or formal recipes as parts is not a category error, then we can reasonably infer the existence of formal parts in certain domains should they prove explanatorily useful. So, might my admission of accidental formal parts vindicate or give life to Koslicki’s argument for such parts in substances?

Two points in response. First, to be clear, my goal has not been to show that the concept of a formal part—whether substantial or accidental—is internally incoherent, or the result of a category error. Rather, my aim has been to show that *substances*, in particular, do not have forms as parts. And, as I discuss more below, this is not because of some anti-hylomorphic sentiment—I take it that substances have forms, but only should ‘have’ be understood in non-mereological terms. So, while conceiving of *accidental forms*, like wisdom, as parts may strike some as odd, I don’t find it particularly troubling in itself. Second, if we want to make the inference or move from formal parts in accidental unities to formal parts in substances, we need to ask whether or not the formal parts in currency—*accidental* formal parts—can do the work that forms are supposed to do in substances. That is, can the sort of formal part that modifies a substance or relates substances make or cause those substances to be a distinct and unified substance? Since Koslicki’s forms structure or configure matter, she is in a position to say that the work her forms accomplish may be accomplished by accidental forms. But there are two issues with this move. First, if Koslicki’s forms are like accidental forms that merely arrange or relate matter, then Koslicki’s substances look like accidental unities, not *per se* unities. A human being is just some cells (or what have you) related in such and such a way. While some hylomorphists might find this troubling in itself, I think the bigger issue is just that the accidental forms in play aren’t those that configure or relate materials. I’ve admitted of accidental formal parts that modify *a*

substance, like the form of wisdom. This is because weak supplementation can only kick in when an object has a single material component, and the only thing we can make with a single material component is an accidental unity such as wise-Socrates or tan-Plato. If we consider a case where an accidental form arranges, structures, or relates some material components, then we have, of necessity, a plurality of parts, and so, weak supplementation cannot kick in (see Renz 2018). So, NAT has the potential to force us to countenance only *some* accidental forms as parts, namely, those that modify a single substance. And these forms are crucially different than forms that arrange, structure, or relate material components.

Now, even if all of the above has been on track, there is an obvious way to avoid my argument. Koslicki could reject the distinction between substances and accidental unities that I've relied on and maintain that masses, heaps, artifacts, and the like are substances just as much as human beings and oak trees are.¹³ If a statue is a substance, then her argument goes through, and we arrive at the conclusion that substances have formal parts.

I have three responses to this objection. (i) First, if artifacts like statues and chairs are substances, then it is fairly curious that Koslicki's argument only seems to work with *artifactual* substances, not natural substances. That is, if artifacts like statues and chairs are substances just as much as human beings are, then why does Koslicki's argument only seem to run when considering artifactual examples? Why does the zygote example not work? I am happy to admit that Socrates is a single thing in a strict sense, so why can we not find an example in which he, or a substance like him, alone serves as the matter of a distinct substance? Koslicki needs to explain this discrepancy or show that my argument is off, that there are examples of natural substances with which her argument may run. Since we've yet to meet an example of a natural substance her argument works with, she must go the former route, but I can think of no non-ad hoc way to explain the discrepancy.

¹³ Koslicki could reject the distinction and go the opposite direction, claiming that human beings, oak trees, and other putative substances are in fact accidental unities, but, as just mentioned, this abandons the notion of *per se* unity that many hylomorphists claim is characteristic of substances.

(ii) If artifacts like statues and chairs are substances, then we'll want to know why. By what criteria, in virtue of what shared characteristics, are things like human beings and statues both substances? Dialectically, the burden is on the Koslicki to show that artifacts like statues and chairs are substances, especially since many Aristotelians and hylomorphists deny this.¹⁴ So, for this move to work, we'll first need good reason to accept what Koslicki says about what it takes to be a substance. And, incidentally, Koslicki (2018: 199ff) seems to think that artifacts, while not illusory or epiphenomenal, do not satisfy substance criteria to the extent that natural substances do.

(iii) Lastly, collapsing the distinction between substances and accidental unities is likely to lead to odd consequences. If what *were* taken to be mere accidental unities like statues and chairs are in fact substances, then are heaps of sand and other disparately unified collections not substances as well? If so, then the special sort of *per se* unity hylomorphism is traditionally thought to capture seems to go out the window (see, for example, Fine 1999). If not, then we need some account of what heaps of sand and the like are. Surely, they are unified in *some* sense. And this weak sense of unity seems to be exactly the qualified sense of unity that the distinction between substances and accidental unities established. Given all this, I believe this sort of objection fails.

4. Diagnosis

If I am right, Koslicki has an argument for the existence of formal parts in certain accidental unities, but she does not have an argument for the existence of formal parts in substances. But how did things go wrong? I believe Koslicki's argument hinges on cases where hylomorphism just has no business.

Recall that, according to Koslicki and hylomorphists generally, form is responsible for uniting material parts into a cohesive whole. The presence of a structure or formal recipe to some bricks and timbers makes for a unified whole, a house. But Koslicki's argument for the existence of formal parts requires that a

¹⁴ My point here is not that there are no plausible criteria that Koslicki and other hylomorphists could rely on to show that both natural substances and artifacts are substances. There are, in fact, various accounts of substance that would count both natural objects and artifacts as substances; see, for example, Weir (2021). Instead, my point is just that such a revision to the standard hylomorphic conception of substance would place the argumentative burden on Koslicki and proponents of formal parts.

substance be fashioned from only a *single material part* so that weak supplementation can kick in. So, the case crucial for Koslicki's argument is one where form, qua unifier, has no work to do, given that a single material part cannot be unified inasmuch as it is already one, a single thing. And if form qua unifier has no work to do in this crucial case it should come as no surprise that Koslicki's argument only seems to work with accidental unities, entities that lack the unqualified unity characteristic of substances. For, accidental unities presuppose substances, as wise-Socrates presupposes or is posterior to Socrates, whose *per se* unity is already accounted for. In other words, if substantial forms make for substances, and they do so by uniting disparate material parts together, then a case where no substantial form is needed because there is no unity to be explained will fail to 'make for' a substance. All that there is to make from a single, already unified substance is an accidental unity. So, my error theory has it that Koslicki's reliance on the principle of weak supplementation forces her to consider cases where only accidental unities come into play, and so, only accidental forms are shown to exist.

Now, we might wonder whether Koslicki needs to lean so heavily on the principle of weak supplementation. Consider again a mass of cells and the human being it constitutes. Suppose that we drop the crucial point about the mass being a single thing; it is a plurality. There is a difference in modal profiles and historical properties between the mass of cells and the human being: the mass cannot think but the human being can, and the parts composing the mass existed prior to the human being. Why can't Koslicki claim that these differences are best explained by the presence of a formal part in the human being that the mass of cells lacks? That is, can't we posit the existence of formal parts without relying on weak supplementation?

Yes, but, crucially, this conclusion isn't forced on us, as Koslicki (2008: 181) herself admits. That differences in modal profiles and historical properties *may* be explained in terms of the possession of a formal part doesn't imply that they must be or that they are best explained in such a fashion. Just because positing an omnipotent, transcendent being *can* explain why the universe exists doesn't mean that we ought to be theists. So, I am happy to admit that the positing of formal parts is an option available to us, but I deny that we have good reason to posit such parts without Koslicki's weak supplementation-based argument. Perhaps other

principles or argumentative strategies suggest the existence of formal parts in substances, but I cannot think of any as plausible as the principle of weak supplementation.¹⁵

What then are hylomorphists to do? If I am right, and Koslicki's argument for the existence of formal parts in substances fails, then is there that much less reason to be a hylomorphist? Do we now lack justification for positing forms? I do not think so at all. Hylomorphists want to do justice to the ordinary belief that some objects, in some circumstances, compose other objects. As Simon Evnine (2016: ch. 1) describes it, if you believe the constitution relation holds—if you think the clay serves as the matter of the statue and that the two are distinct—then you are a hylomorphist.¹⁶ So, inasmuch as one believes composition occurs and the constitution relation obtains, one has reason to be a hylomorphist, someone who claims that substances are composites, in some sense, of matter and form.

But doesn't this obviously admit of formal parts, exactly the conclusion Koslicki is after? If hylomorphism is the view that substances are *compounds* of matter and form, then isn't there some entity, a form, that is a part of substances? What else could being a 'compound' of matter and form amount to?

In response, notice this worry assumes that forms are entities or things in some robust sense and that the compounding of matter and form is to be understood mereologically, in terms of parthood. While these are natural assumptions, I believe that they are misplaced. The hylomorphist's explanation of composition and constitution in terms of matter and form doesn't entail that either or both matter and form must be entities in some robust sense, let alone that they ought to be conceived literally as parts of the explanandum. While I think hylomorphists ought to conceive of matter entiatively and its relation to substance mereologically, it isn't obvious that form ought to be understood so. Forms could be conceived in some

¹⁵ One might, for instance, think that explanations ought to proceed mereologically, or in terms of parts. So, should one want to explain the differences between a mass of cells and the human being it composes, one should do so mereologically, in terms of some non-material part. Since the mass of cells and the human being have the same material parts, the differences between the two must be explained with some non-material or formal part. However, I simply don't find such a thoroughly mereological conception of explanation plausible. For, one could appeal to, say, the relations holding between the material parts of a human being so as to distinguish it from the mass of cells. Since relations are not parts of substances, such an explanation shows that explanations needn't proceed mereologically.

¹⁶ See also James Dominic Rooney (2022), who argues that anyone committed to some form of restricted composition counts as a hylomorphist.

deflationary terms, as ‘principles of unity’ that bear a non-mereological relation to substances (Johnston 2006), or as mental projections onto matter (Evnine 2016, Goswick 2018, Sattig 2015), or as abstract roles or offices that portions of matter occupy (Shields 2019). And a number of hylomorphists believe that forms exist in some robust sense, but deny that they are *parts* of substances.¹⁷ So, there are a number of ways to be a respectable hylomorphist without endorsing the reality of formal parts.

Before closing, I would like to proffer briefly a distinct way of conceiving of forms in a non-mereological fashion. One could whole-heartedly accept the entitative assumption above but deny that *form* is the entity that does the explanatory work in composition and constitution. Why can’t matter, or some aspect or feature of matter, provide the entitative means for an explanation of composition and constitution? Consider a free electron and a free proton. The two combine so as to compose a hydrogen atom. One plausible explanation of the union of the electron and proton into an atom of hydrogen is that the electron and proton are equipped with powers or dispositions to unite into an atom of hydrogen. That is, the electron and proton together have the potential to be an atom of hydrogen; their respective powers just need to be triggered or stimulated in the right way, in the right circumstances.¹⁸ Since these powers belong to the electron and proton, they should be conceived of as properties, aspects, or features of matter, as the electron and proton are plausibly the matter of the hydrogen atom. On this conception, the *powers of matter* explain composition, not some distinct formal part or structure. While this might seem to leave no room for form, and so, not be properly hylomorphic, I think a proponent of this proposal could identify forms with the *manifestation* of matter’s collective powers to unite into a substance. So understood, an atom of hydrogen would be a compound of matter and form inasmuch as it is just the electron and proton manifesting their powers to unite into an atom of hydrogen. As I see it, this fits well with a pedigreed line of interpretation in

¹⁷ See, for example, those mentioned in note 1 above. Many of these hylomorphists worry that if forms are responsible for the unity of substances, then they cannot themselves be parts of the substances they unite, on pain of regress. See Anna Maramodoro (2013) for discussion.

¹⁸ For discussions of powers that I am sympathetic to and suits this proposal, see John Heil (2003: ch. 8) and C.B. Martin (2008: ch. 3).

Aristotle scholarship that identifies matter with potentiality and form with actuality (e.g., Kosman 2013), and highlights the causally active role forms are traditionally taken to play.¹⁹

5. Conclusion

I've argued that an existential case for formal parts in substances advanced by Kathrin Koslicki, defended and endorsed by others, fails. Since a single material part cannot plausibly serve as the matter for a distinct substance, but only a distinct accidental unity, Koslicki's existential case for formal parts in substances is limited. Hylomorphists should build a different case for the reality of formal parts in substances, or perhaps abandon the idea that forms are parts or constituents of substances.²⁰

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¹⁹ For similar proposals, see Austin (2021) and Skrzypek (2021).

²⁰ [Acknowledgements omitted]

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