

# The Metaphysics of Parts

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May 1, 2016

## Initial puzzles

A problem concerning the activity of the form: to distinguish between mere heaps and substances, Koslicki both restricts composition and construes the form as a part – but why do both?

- If the form is a part, then the substance and the heap of its material parts differ in parts; the heap is not a substance because it has no form as part. Composition does not need to be restricted: when the parts are dispersed, its form goes out of existence and is hence no longer available for arbitrary summing.
- If composition is restricted and “takes place only when the material parts which come to compose a concrete particular object satisfy certain conditions which are set by the formal components that are associated with the whole in question” (Koslicki, ms., p28), then the form must ‘active’, ie. something that sets conditions, ie. a property. Then there is no need to assume that it’s also a part.

A problem concerning the explanation of change: One (or perhaps: the) motivation for hylomorphism: to satisfy the incompatibility condition on change, you need a succession of two different things; to satisfy the proper subject condition, you need an unchanging thing. If we have only one of them, we don’t have change. But do we have change if we have both? We call the first “form”, the latter “matter”. Crucial question: in what sense does changing form + unchanging matter result in changing compound? Two subquestions:

- (i) what are the relations between (i-a) form and the compound, (i-b) matter and the compound, (i-c) form and matter? they must be of the type that underwrites our epistemic right to infer what happens with the compound from (and, more ambitiously, explain by) what happens with matter and form;
- (ii) in what sense is the situation asymmetric enough to ascribe change to the compound? why do we privilege the change in the form over the constancy in the matter?

“Parthood” as an answer to the first two questions of (i) has problems with (ii). This has to do with it’s not directly answering the third question of (i), ie. it’s not giving us a real, direct, relation between the form and the matter.

## Substances (ontologically independent things) have intrinsic essences

Suppose  $y$  is a substance that is essentially  $F$  and  $F$  is extrinsic to  $y$ . This means that there is an intrinsic duplicate  $y'$  of  $y$  that is not  $F$ . Because  $y'$  is not  $F$  and  $y$  is essentially  $F$ , what it is to be  $y'$  and what it is to be  $y$  are two different (sets, conjunctions of) properties: the latter but not the first entails  $F$ . But the change from the first to the second is, by definition, a Cambridge change:  $y$  could become what it is to be  $y'$  simply in virtue of a change in something else. Ultimately, this has to be a change in the intrinsic property of something (because all Cambridge change piggy-backs on intrinsic change) and this change has to be excluded by every real definition of  $y$ .

Thus all real definitions of  $y$  mention something  $x$  numerically different from  $y$ . They do so (i) by ascribing to this  $x$  some property  $F$  intrinsic to  $x$  such that it is in virtue of  $x$  being  $F$  that  $y$  is what it is and (ii) by ascribing to  $x$  and  $y$  some relation  $R$ . So  $y$  is what it is partly in virtue of some  $x$  having the intrinsic property  $F$ . I distinguish three cases in descending order of personal conviction:

- If all real definitions mention the same  $x$ , then  $y$  is essentially dependent (identity dependent) on  $x$  and cannot be what it is unless  $x$  exists (for  $x$  has to exist to be  $F$ , if  $F$  is intrinsic to  $x$ ).
  - On the standard non-modal conception of essence, essential properties are *de re* necessary. So essential dependence implies ontological dependence. On the standard conception, an essentially dependent thing cannot be a substance.

- If we allow for contingent essences,  $y$  could still exist if  $x$  would not exist, or not be  $F$ . But  $y$  would not then be what it is. So suppose  $y$  has its extrinsic essence contingently. It would still not be a substance, because something else  $z$ , of which it is a proper part, has a better claim to be a substance. 'Construct'  $z$  by recursion. If  $x$  has an intrinsic essence,  $z = x + y$ . If  $x$  has an extrinsic essence in virtue of being essentially dependent on  $w$ , then  $z = x + y + w$ . If  $x$  has an extrinsic essence in virtue of being generically essentially dependent on some  $F$ , then  $z$  is the sum of  $x$ , of  $y$  and of all  $F$ s.  $z$  has its essence intrinsically, because everything it depends on is included among its parts. Nothing is a substance if it is a proper part of something that has a better claim to be a substance.
- If different real definitions mention different things,  $y$  is only generically essentially dependent on there being  $F$ s: it is essential to  $y$  that there is an  $x$  such that  $Fx$  and  $Rxy$ . If  $F$  is an intrinsic property, then it is an intrinsic property of the world that there are  $F$ s (for intrinsic properties of parts are intrinsic to the whole). If  $y$  is a substance, then it could be a world and have the same intrinsic properties than it actually has, for a substance is a combinatorial unit and could exist alone. So  $y$  could have the property of being such that there are  $F$ s intrinsically. If it had it intrinsically, it would also intrinsically be such that it stands in relation  $R$  to some  $F$ . Otherwise, it would have a duplicate which does not stand in relation  $R$  to any  $F$ , even though every duplicate is accompanied by  $F$ s. It is, however, hard to see why it could fail to stand in relation  $R$  to any of the  $F$ s. So if  $y$  were a world, then it would have its essence intrinsically. It would also be a duplicate, so  $y$  has its generically dependent essence intrinsically.

So if  $y$  has an extrinsic essence,  $y$  is not a substance. Substances have their essential properties intrinsically.

### **Substantial complex wholes are grounded in their proper parts**

If  $x$  is a proper part of  $y$  and  $x$  does not partially ground  $y$ , then either  $y$  is fundamental or fully grounded in something else  $z \neq x$ .

- Suppose  $y$  is fundamental; either  $x$  is also fundamental or it has a ground  $z$ . If  $x$  is also fundamental, then it cannot be a proper part of fundamental  $y$ , for the fundamental level (if there is one) does not exhibit mereological complexity. If  $x$  has a partial ground  $z$  and  $x$  were a proper part of  $y$ , then  $z$  would also partially ground  $y$ . If something has a partial ground, it also has a full ground, so  $y$  could not be fundamental. So  $x$  cannot be a proper part of fundamental  $y$ .
- Suppose  $y$  is fully grounded in  $z$ . To fully ground something is to fully ground its parts. So if  $x$  were a part of  $y$ , then  $z$  would be a full ground for  $x$  as well, i.e.  $x$  and  $y$  would have the same full ground, without standing themselves in any grounding relation, which is impossible unless  $x = y$ .

So in both cases  $x$  is not a proper part of  $y$ . Contrapositively, if  $x$  is a proper part of  $y$ , then  $x$  partially grounds  $y$ .

### **Grounded substances are grounded only in their parts**

If  $y$  is a substance and  $x$  partially grounds  $y$  then it is essential to  $y$  to be so grounded. If some real definition of  $y$  would leave it open what grounds, if any,  $y$  has, then these grounds (or even  $y$ 's being grounded at all) do not help determine the identity of  $y$ . But certainly being grounded (or fundamental) is part of what it is to be  $y$ . So suppose  $y$  is partially grounded in  $x$ , but accidentally so. If  $y$ 's actual grounds do not help determine the identity of  $y$ ,  $y$  is multiply groundable: it's being what it is is compatible with it's being grounded in  $x$  and compatible with it's being grounded in  $z \neq x$ . But it's not compatible with  $y$  not being grounded at all. So the real definition of  $y$  must specify what the grounds for  $y$  that are compatible with  $y$ 's essence have in common. Suppose this is property  $F$ . Then  $y$  is, contrary to our assumption, *not* partially grounded in  $x$ : instead it is partially grounded in there being something that is  $F$ .

If  $y$  is a substance grounded in  $x$  it is thus essential and hence intrinsic to  $y$  (alone) to be grounded in  $x$ : every duplicate of  $y$  is grounded in  $x$ .  $x$  grounds  $y$  in virtue of some property  $F$  of  $x$  which is intrinsic to  $y$ . The property of being such that  $x$  is  $F$  is also intrinsic to  $y$  because every duplicate of  $y$  is grounded in  $x$  (and not just: every duplicate of  $y$  is grounded in a duplicate of  $x$ ). So there is what I call 'intrinsic match' between  $x$  and  $y$ : if it follows from  $F$  being intrinsic to  $x$  that it is intrinsic to  $y$  to be such that  $x$  is  $F$  then  $x$  is a part of  $y$ . My hand is a part of me because (and also only if) it is intrinsic to me to have a red / warm / formed to a fist in virtue of my hand being red / warm / formed to a fist.

So if  $y$  is a substance grounded in  $x$ , then  $x$  is a part of  $y$ .

## Where hylomorphism comes into the picture

If complex substantial wholes are grounded only in their parts, if partial grounds are parts of full grounds and grounding obeys amalgamation – if each of  $x$  and  $y$ , on their own, are complete grounds of  $z$ , then  $x$  and  $y$  together form another complete ground of  $z$  –, then substances are not identical to the sum of their parts. For substances are then grounded in the sum of their parts, and grounding is irreflexive.

If grounded complex substances are grounded in all and only their parts, we may ask in virtue of what they are so grounded. What explains this grounding fact? That the parts have a certain form. This does not mean that the form is another part of the substance: the substance is also something else than the parts (Met. Z.17) and the something else that the substance also is is the form.

That the parts have a certain form is a qualitative, contingent fact about the parts. But it is a fundamental fact, it is not further explainable by appeal to further things other than the parts. What is grounded by this fundamental fact is something more than the parts or their sum, namely the complex substantial whole which is not just the parts but also the form. The form is part of the explanation why the parts ground the substance, but it is not a part of the substance. Nevertheless, it is essential to it, because it is part of its real definition.

## Applications

**Existence condition for substances:** for the substance to exist, its parts have to exist, and it has to have a formal part that organises the material parts. But how does the formal part do that? It's not just a part, but also active. But is it not then a part in another sense of 'part'? Yes, it is: it is part of the explanation why the substance exists but it is not part of the substance. Because the substance is not identical to the sum of its parts, composition does not have to be restricted.

The reduction of substantive change to qualitative change with respect to essential properties leaves open the question why the loss of some essential property should produce / entail / constitute the ceasing to exist of its bearer. This is explained by the full grounding of the grounding fact by the form: if the form no longer explains why the parts ground the substance then the substance no longer is what it (also) is. It would then be just the parts, so it cannot be grounded in them any more (because grounding is irreflexive), so it goes out of existence because it loses any ground and cannot become fundamental. To remain grounded, it would need to acquire new parts (in order to be still grounded in its parts). But in every change something has to remain constant: the substance cannot simultaneously change its form and its matter.

**Exemplification may be one of the hylomorphic ties.** Koslicki argues that forms are not properties of the compounds of which they are the forms, ie. that 'being the form of' is not a relation of exemplification. But this does not rule out that forms are not properties *of the matter!* As far as I can see, the following is a stable combination of views: (i-a), the relation between the form and the compound, is characterisation; (i-b), the relation between the matter and the compound, is grounding / parthood; (i-c), the relation between form and matter, is exemplification.

**Intrinsic individuation of substances through universal forms:** If the form is a property of the parts, is it universal or particular? If it is particular, it must be a part of the substance, because it can only become particularised through its being a part of a particular. But if the form is particularised by what it is the form of then it cannot explanatorily individuate its bearer. So it must be universal. But how can it then be individuating? It does not have to be individuating by its own nature: it can individuate not in virtue of what it is but in virtue of what it does. "What it does" is to be exemplified. But how can exemplifications of universals individuate? Answer: they just can. Argument: to accept universals is to accept primitive multilocation: the universal insofar as it is here is different from the universal insofar as it is there, but still the same universal. The universal insofar as it is here is the particularised universal, and it is particularised by a certain matter. The form alone organises, but only form and matter together particularise. In this sense, this form of hylomorphism is non-reductive: substances are not just compounds of matter and form, they are portions of matter exemplifying a form.

**Answering Sidelle.** I assume that there is nothing bad in general about one and the same property being essentially exemplified by  $a$  and being accidentally exemplified by  $b$ , as long as  $a \neq b$ . But it may still be problematic if  $a$  is, or is permanently, coincident with  $b$ ? Not if there is a grounding difference: what explains that characterisation by the form is essential to the substance, while the exemplification of the form by the matter is accidental is that the form grounds a further, asymmetric and directional relation between the two, namely grounding.