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Discussing the Formal Components of Material Objects: A New Reply to Bennett

Abstract: Recently mereological hylomorphism, the theory in which form and matter are considered to be proper parts of objects, has become very important among contemporary metaphysicians. The present work aims to analyse and dismantle Bennett's criticism regarding the existence of formal proper parts. To do this, I will start by presenting Koslicki's mereological hylomorphism. Next, I will focus on Bennett's critique which seeks to deny the existence of formal proper parts. Finally, I will analyse critically the Bennett's criticism focusing on the scenario of lump of clay and statue. I will show Bennett's proposal is not explanatorily better than Koslicki's hylomorphism because she needs to accept a counter-intuitive thesis. Therefore, we should prefer Koslicki's mereological hylomorphism.

Keywords: hylomorphism; material objects; form; matter; mereology; dominant kind view

1 Mereological Hylomorphism for Ordinary Material Objects

In recent decades, different philosophers have defended contemporary theories of hylomorphism to explain the nature of ordinary material objects. Among them, Koslicki's (2008) mereological hylomorphism stands out;[1] a theory which countenances form and matter as proper parts of objects, in the same sense of proper part. According to Koslicki, the relationship of mereological parthood can adequately

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[1] For other mereological versions close to Koslicki's proposal, see Fine (1999, 2008, 2010), Sattig (2015) or Goswick (2018). For non-mereological hylomorphisms see Lowe (1998), Johnston (2006), Rea (2011), Marmodoro (2013), Koons (2014), Jaworski (2016) or Evnine (2016).

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explain what an object is, since it can satisfactorily capture the way different parts of objects are related to the compound they constitute. Her proposal aims to be as simple as possible, and then assumes Simons' requirements for mereological operation: the proper parthood must be a partial-ordered governed by a supplementation principle, that she assumes the weaker one: the Weak Supplementation Principle (if an object O has a proper part x, it must have another proper part y disjoint from x) (2008: 167–8). Then she starts from a single notion of parthood and the most basic axioms of the proper parthood relation; namely, asymmetry, transitivity, and the Weak Supplementation Principle.

Koslicki argues that an object and its matter, by Leibniz's Law, are numerically distinct objects because one has properties that the other does not possess: modal properties (the property of being able to survive squashing); temporal properties (the property of coming into existence differently), and constitution properties (the property of being constituted by a lump of clay) (2008: 179–80). To this she adds the Weak Supplementation Principle, concluding that ordinary material objects are composed of material proper parts (matter) and formal proper parts (form).[2] It is in this sense, that her proposal is understood as a form of mereological hylomorphism because different parts of objects are mereologically related to the compounds they constitute (2008: 180–1). Koslicki considers that the relationship between the whole and its parts ought to be analysed in mereological terms; it should not be understood as something primitively non-mereological. For this reason, she tries to give a mereological explanation of the relationship between the material and formal parts themselves and the object they compose (2008: 184).

The original proposal of Koslicki's mereological hylomorphism resides in her formulation of the *Neo-Aristotelian Thesis*:

> (NAT) *Neo-Aristotelian Thesis*: The material and formal components of a mereologically complex object are proper parts of the whole they compose. (2008: 181)

In what follows I will focus on discussing the NAT and the argument for the existence of formal proper parts in ordinary material objects.

2 Reactions to Koslicki's Proposal

We have just seen Koslicki's original mereological hylomorphism proposal on the analysis of the nature of material objects, according to which, ordinary material

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2 See Paul (2002) for another defence of the existence of non-material proper parts in addition to material proper parts, and Haslanger (1994) for a defence of matter and form as proper parts of the hylomorphic compound but not in the same notion of part. She argues for a pluralistic sense of part in which form and matter are parts of the compound, but in different senses.

objects would be composed of proper parts of two different kinds: material, and formal proper parts, which maintain a relationship of mereological composition with the material object they constitute. However, this proposal has received different sorts of criticism.[3] For the duration of this work, I am going to focus on one criticism that seems to me to be of crucial importance: Bennett's (2011) critique of the existence of the formal proper parts of a material object.

2.1 Bennett: There Are No Formal Proper Parts

I will start by presenting the criticism that Bennett directs to Koslicki, without any intention of addressing whether it is successful or failed. My analysis of that will appear later, in point 3.

For Bennett, Koslicki's proposal regarding the composition of ordinary material objects is not convincing (Bennett 2011: 286). As proof, she first offers a reconstruction of Koslicki's argument in defence of formal proper parts:

"*The argument for Neo-Aristotelian Thesis*:
(1) It is possible to make an object S from a single preexisting material ingredient L.
(2) L is a proper part of S.
(3) Weak Supplementation: anything that has a proper part has at least two non-overlapping proper parts.
(4) S has a proper part Q that does not overlap L (2, 3).
(5) S has no material proper parts other than L (1)
(6) Q is a proper part, but not a material proper part, of S (4, 5)
(7) S has a formal proper part (6)
(8) There is nothing special about S.

Neo-Aristotelian Thesis: all mereologically complex objects have formal proper parts. (6, 7)" (Bennett 2011: 286).

The argument is a formal reconstruction of Koslicki's argument in favour of the existence of formal proper parts of material objects.[4] To the extent that the argument is a reconstruction, Bennett considers that both the premises and the conclusion find textual support in Koslicki (2008) (Bennett 2011: 286). Although Bennett does not spend time to make the premises explicit concerning the textual correspondence that she claims, we will see if it is possible to determine it.

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3 Some of them are: Evnine (2011), Marmodoro (2013), Koons (2014), Oderberg (2014), Skrzypek (2017), Rotkale (2018), Campdelacreu (2021), etc.
4 For an alternative formal reconstruction of the same argument see (Donnelly 2011: 228).

We quickly find textual correspondence with premise (1) since it is precisely the scenario that Koslicki introduces to discuss her proposal. She says that 'it is possible to create a *new object* out of just a single pre-existing ingredient' (2008: 179, my italics) and this scenario 'may be drawn from cases which exhibit the relation commonly referred to as *constitution*, viz., the relation which is said to obtain between a thing and what is made of' (2008: 179, Koslicki italics). A good example of this could be a piece of clay (*L*) that, modelled in a certain way, can constitute a new material object: a statue (*S*) (Koslicki 2008: 179) a scenario that is accepted by her as 'pre-theoretically plausible' (2008: 183, n.24). Koslicki considers that in such a case the piece of clay, which 'is the only material component' (2008: 181), is a proper part of the statue that it constitutes (2008: 181), also proving premises (2) and (5) to be textually supported.

Regarding (3), Koslicki accepts the Weak Supplementation Principle (WSP) because it is 'the weakest possible addition to Axioms 1 (Asymmetry) and 2 (Transitivity)' (2008: 168), which are 'the minimal formal requirements Simons views as constitutive of any genuinely mereological operation' (2008: 167). By that reason WSP is 'taken to be partially constitutive of the meaning of "is a proper part of"' (2008: 180) and again, she accepts this as also 'pre-theoretically plausible' (2008: 183, n.24). In accepting WSP and considering that (*L*) is a proper part (*S*), Koslicki assumes premise (4). Specifically, she tells us that '*something extra* that distinguishes the statue from the piece of clay that constitutes it must in fact be an additional *part*' (2008: 180; Koslicki italics).

As Bennett indicates, premise (6) follows from the conjunction of (4) and (5), and although (6) is not entirely explicit in Koslicki (2008), it is plausible to attribute it to her theory, since during the argumentation Koslicki indicates that the piece of clay is the only material proper part of the statue. However, the statue must have an extra proper part that differentiates it from the piece of clay, so it must be of a different nature (2008: 180–1). Koslicki's next step is (7) – as Bennett (2011: 286) indicates – and she tells us that the 'most likely candidates for these additional proper parts are of course those elements of the whole to which we have been referring as its "formal components"' (Koslicki 2008: 181); that is, the statue has a formal proper part that differentiates it numerically from its matter (the lump of clay). Before formulating the conclusion of Koslicki's proposal, Bennett proposes premise (8). Although we do not find it presented in the same order in Koslicki's argument, it is plausible according to Bennett's reconstruction, because when Koslicki presents us with the scenario in which an object can be created from a single material component, she supports the plausibility of the example by indicating that it is the typical case where there is a relation of constitution, giving the example of the piece of clay and the statue (2008: 179).

Lastly, Bennett introduces us to NAT as a conclusion of the previous premises (2011: 286), which is what Koslicki does once she introduces the existence of formal proper parts in addition to the material ones (2008: 181). However, Koslicki uses an element, which she considers important, that is not present in Bennett's reconstruction: the conjunction of Leibniz's Law and WSP (2008: 181). This is because according to Leibniz's Law, the lump of clay and the statue are not the same object, because they do not share all of their properties, and since the lump of clay is 'a single material component, the following explanation of their numerical distinctness is actually *dictated* to us by our endorsement of the Weak Supplementation Principle [...], we know that the *something extra* which distinguishes the statue from the lump of clay that constitutes it must, in fact, be an additional *part*' (2008: 180; Koslicki italics). Accordingly, Koslicki states that 'assuming WSP and the cogency of Leibniz Law-style arguments for the numerical distinctness of wholes and their material components, we arrive at the conclusion that the formal components of a whole as well must be counted among its proper parts' (2008: 181). Nevertheless, it seems that despite this difference we can affirm that the premises of Bennett's reconstruction of the argument do exhibit a textual correspondence in Koslicki's work.

After the reconstruction, we are now in a position to address the reason why Bennett does not agree with the conclusion of the argument (NAT). Since she does not support the conclusion, she must reject at least one of the premises of the argument to deny it.

The premise chosen by Bennett is (2). However, she does not simply mean to deny (2), but instead, she considers that when Koslicki is affirming premise (2), she is assuming a principle whose justification Bennett considers to be implausible (2011: 286–7). To address this, Bennett proposes a similar but more plausible principle that leads us to reject premise (2) (2011: 288–90).

Bennett tells us that Koslicki is assuming:

> '**Material Ingredients as Proper Parts (MIPP):** If the material ingredients from which an object is created persist through the process of creation, they are proper parts of that object at the beginning of its existence'. (2011: 287)

What exactly is problematic about the principle that Koslicki assumes? The problem that Bennett finds with MIPP is that Koslicki seems to consider it to be the best explanation of the fact that the material components of objects: (a) to continue to *maintain their presence* in the resulting compound, (b) to have similar properties to the resulting compound, and (c) to become spatiotemporally coincident with the resulting compound. However, MIPP is not the best explanation for these three characteristics. Hence, Bennett proposes an alternative principle that is more feasible

than MIPP and has greater explanatory force, since it explains everything that MIPP does, as well as other cases where MIPP does not work (2011: 288).

To illustrate MIPP's failure, Bennett asks us to think about what happens in scenarios such as that of baking a cake. We start with some material ingredients like flour, oil, eggs, sugar, etc.; what the cake is made of. However, the eggs are not a proper part of the resulting cake, although the eggs were a proper part of the contents of the refrigerator in which they were kept. As it turns out, the eggs are destroyed in the process of creating the cake and for this reason we cannot consider that they are a material proper part of the cake (2011: 288). Nonetheless, Bennett says 'the eggs *do* in a sense 'maintain a presence' in the resulting cake. After all, someone who is vegan or has unfortunate allergies will refuse to eat the cake, citing the (literally false) fact that 'it has eggs in it'" (2011: 289; her emphasis). The resulting compound inherits some properties of the material ingredients which are destroyed in the process of creation, and Koslicki's proposal cannot explain that fact because 'MIPP simply doesn't apply here (the cake case). It remains silent. It says nothing at all about why your cake inherits properties from the eggs, or how it is that the eggs are – sort of – present in the cake. So MIPP is not a very good explanation of Koslicki's three phenomena.' (2011: 289). The MIPP fails to be a powerful explanation of the three phenomena: (c) vanishes because the material ingredient ceases to exist, and (a) and (b) because in some sense eggs *maintain a presence* but without being a proper part of the cake.

This failure of the explanatory power of the principle that Koslicki assumes – the MIPP – suggests to Bennett that we should abandon it in favour of another principle of material parts which has the same explanatory power but also fits cases where MIPP fails. I will show later that Bennett has the very same problem since the general principle that she is proposing does not apply to all cases.

Bennett's proposal is the following:

'**Proper Parts of Material Ingredients as Proper Parts (PPMIPP):** (Some of? Many of?) the proper parts of the material ingredients from which an object is made are proper parts of that object at the beginning of its existence'. (2011: 289)

With this principle, we can explain cases like those in which we create a cake. The fact that the cake *maintains the presence* of some material ingredients is explained by the fact that the cake has, as proper parts, those parts that the material ingredient in question had. In addition, by mereological supervenience, those proper parts of the material ingredient, of which the cake also has as proper parts are the reason why the cake inherits the properties of the material ingredient. Finally, PPMIPP would also explain why some material ingredients end up being spatiotemporally coincident with the compound they originate from (Bennett 2011: 289). Note that in PPMIPP, the phrase, 'many of the proper part', is compatible with indicating that

all proper parts of the material ingredients may be proper parts of the resulting compound. However, it is not clear whether she pretends to exclude that reading or not because she is intentionally vague about her principle for establish which are these important proper parts (2011: 289, n.4). In any case, she says "[w]hat matters is that it only makes a claim about the proper parts of the material ingredients, *rather than* about the *material ingredients themselves*" (2011: 289, n.4; my italics). We will see later why this is a problem for her proposal.

Previously, we said that the justification of premise (2) – which Bennett intends to attack – was based on the justification of MIPP as the best explanation to (a), (b) and (c). But since we have said that MIPP is not the best explanation available, but rather that PPMIPP is explanatory superior (2011: 289), we must now judge whether PPMIPP also justifies premise (2), or if, on the contrary, it falsifies it. Bennett solves this dilemma by saying that PPMIPP falsifies premise (2), so we must conclude that the argument for NAT is not valid; namely, we are not justified in thinking that material objects are composed of parts of two different kinds: material and formal (2011: 289–90).

How exactly does PPMIPP falsify premise (2)? Because premise (2) tells us that L is a proper part of S, but by PPMIPP we can only say that the proper parts of the material ingredients of the resulting compound are proper parts of the resulting compound. Accordingly, L cannot appear as a proper part of S; only proper parts of L could appear as proper parts of S.

3 The False Explanatory Superiority: A Return to Formal Proper Parts

Previously, in point 2.1., I introduced Bennett's critique of Koslicki's approach to the existence of formal proper parts. Remaining neutral about whether Bennett's argument is correct, I have simply shown the plausibility of the reconstruction of her argument. However, in this section, I aim to discuss the Bennett's criticisms and explain why she is not able to dismiss Koslicki's hylomorphism.[5] To do this, first I will discuss if her reconstruction of NAT is perfectly accurate and then I will put attention on the Koslicki's imagined scenario about Lumpl and Statue[6] and I will show why Bennett's proposal is not better situated than mereological hylomorphism to explain the case. To conclude this section, I will contrast my response

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[5] See Toner (2013) or Tomaszewski (2016) for different replies to Bennett's criticism.

[6] We will use 'Lumpl' or 'L' to refer to the object of the kind *lump of clay* that we are discussing, and 'Statue' or 'S' to refer to the object of the kind *statue* that we are discussing. Sometimes we will vary the term just for linguistic convenience, but we will be referring to the same entity.

to Bennett criticism with the other two responses: Toner (2013) and Tomaszewski (2016).

3.1 The Quid of Dispute: Does Lumpl Survive or Not?

The main question Bennett focuses on to criticise NAT is on what is grounded in premise 2 about L (lump of clay) is a proper part of S (statue). Bennett argues that Koslicki justifies this premise based on the MIPP as a best explanation to (a) to continue to maintain their presence in the resulting compound, (b) to have similar properties to the resulting compound, and (c) to become spatiotemporally coincident with the resulting compound. However, now let us to see another way to reconstruct premise 2 of the argument, which it is more plausible account of Koslicki's reasoning that will be justified in the following paragraphs. We will suggest that premise 2 is derived from previous premises:[7]

> (2a) L is identical to S or L is a proper part of S
>
> (2b) L is not identical with S because it differs in many properties (by Leibniz Law's and $\neq$ properties)
>
> (2) L is a proper part of S (by 2a and 2b)

Koslicki's argument – that the lump of clay is a proper part of the statue – is better supported with premises 2a and 2b, and they are textually supported when she proposes that the lump of clay is not identical with the statue because they are constitutionally related, and they are two numerically distinct objects because they do not share all their properties (2008: 179–81).

However, the MIPP is not sufficient to determine whether L is a proper part of S because this principle is a conditional: what it says is that the material ingredients are proper parts of the new objects *only if* they persist in the process of creation. However, we still need a justification as to why the material ingredients are not destroyed in the process of creation. The MIPP is not enough, and the aim of Koslicki is to justify that Lumpl is not destroyed in the process of create Staute.

In fact, Koslicki assumes elsewhere that the pre-existing materials are not destroyed in the process of creation; they just become proper parts of the new objects. She is assuming this because they are the ordinary persistence conditions

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7 Thanks to reviewers for suggesting to me this way of reasoning.

that we usually attribute to those material components. For example, consider the next discussed example that she gives about the table and its material components:

> 'Since the process of assembling the table in the normal case only changes the ingredients' non-essential relational characteristics, there is no reason to think, given the persistence conditions we ordinarily ascribe to these objects, that they cease to exist merely as a result of being rearranged. For example, it seems plainly compatible with the persistence conditions of the two pieces of wood, which we describe (looking towards the future) as a table-leg and a table-top, that the two may come into closer proximity to one another. Thus, unless there is additional evidence to the effect that the pre-existing ingredients are somehow destroyed during the process of assembling the table, it is thus natural to view them as still maintaining a "presence" of some sort within the resulting table; the most obvious way in which their continued "presence" within the resulting table may be understood is by appeal to the notion of parthood.' (2008: 177)[8]

In this case, the material ingredients are still in there in the table; they are not being destroyed but have just become material proper parts of the new object due to the persistence conditions that we ordinarily attribute to tables, table-legs and table-tops. The same happens in the case of Lumpl and Statue, given the conditions of persistence that we ordinarily attribute to lumps of clay and statues.

Let us to put the focus on the Lumpl/Statue case imagined by Koslicki in which a single pre-existing material ingredient – Lumpl – when modelled in a certain way without adding or removing anything, can possibly brought into the existence of a numerically new object: a statue – Statue. This is the case that Koslicki uses to explain why we need formal proper parts, since, by Leibniz's Law, the Lumpl is numerically distinct from Statue because Lumpl and Statue have different properties: temporal, modal, constitution, aesthetic; and also in conjunction with Weak Supplementation if L is a proper part of S, and L is the only material part, then we need an additional non-material proper part, and the best candidate is a formal proper part (the form) of the object (Koslicki 2008: 180–1).

The main point of the discrepancy between Bennett and Koslicki concerns what happens with to Lumpl when it becomes another numerical different object: Statue. According to Koslicki, using Leibniz's Law style of reasoning, the first object, Lumpl, is numerically distinguished from Statue because they differ in many properties. Thus, Lumpl becomes a proper part of the new object Statue, specifically the material proper part of Statue that needs to be supplemented by another proper part which is non-material (formal) (Koslicki 2008: 179–80).

On the other hand, what should Bennett accept in the Lumpl/Statue case? The premise 2a presents two options: (i) L is identical with S or (ii) L is a proper part

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8 See also Koslicki (2018: 58).

of S. Let us first think of (i). Bennett seems not to accept that L is identical with S because she accepts that in the Lumpl/Statue case, something new comes into existence; therefore, it is not possible to accept that L and S are identical, otherwise it will entail that there are no creations in the imagined scenario. Is she, then, forced to accept (ii)? It seems not. She does not accept that Lumpl is a proper part of Statue since it will entail accepting the Koslicki's conclusion regarding the necessity of formal proper parts in addition to material proper parts.

In fact, the focus of Bennett's criticisms seems to be concerned with discussing the premise 2a. She intends to introduce a new disjunct because in the case of Lumpl and Statue it is not exhausted by being identical or by being a proper part. She seems to have in mind the next premise:

2a*) L is identical to S or L is a proper part of S or L is destroyed when S is created.[9]

Now, Bennett may argue that in the case of Lumpl/Statue, L is not identical to S, but also L is not a proper part of S. It is L, not its proper parts, that is destroyed when the new object S comes into existence. To support this argument, she introduces an alternative principle – PPMIPP – in order to deny the possibility that the pre-existing material could be a proper part of the new object (2011: 289, n.4). According to her principle, only the proper parts of the pre-existing material could become the proper parts of the new object.[10] Her principle is compatible with the reading in which all the proper parts become proper parts of the new object, but the sum of all proper parts of Lumpl is not Lumpl itself.

Thus, considering 2a* through Bennett's perspective, the true disjunct is that 'L is destroyed when S is created', and consequently, the premise 2 is false. Nonetheless, Bennett appears to assume that PPMIPP by itself explains why the pre-existing object is not a proper part of the new object. However, her principle needs to justify why the material ingredient, as a whole, is destroyed in the process of creation, while its proper parts become proper parts of the new object. PPMIPP alone does not explain the destruction of the pre-existing object when we create a new one. More work needs to be done to justify this fact.

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9 This is just one option to modify the premise 2a, but a four-dimensionalist defending temporal parts (e.g. Sider [2001]) could suggest that we have to modify the premise like:
2a**) L is identical to S or L is a proper part of S or S is a proper part of L He could also argue in favour of the view that Statue is a temporal proper part of Lumpl. However, we will not explore that possibility because three-dimensionalism is the presupposed framework for Koslicki and Bennett, and Bennett, in her (2011), is not trying to argue in favour of four-dimensionalism.
10 We have to note that similar with the MIPP, the Bennett's principle needs to justify that the pre-existing material as a whole is annihilated in the process of creation.

The question remains open for Bennett about why Lumpl is destroyed in the process of creating Statue, because Bennett remains silent about why L ceases to exist when S becomes into existence. Bennett does not offer a justification for this important point for her criticism. Should we just accept that Lumpl is destroyed, but not its proper parts, when Statue is created? However, we could reinforce Bennett's criticism with another thesis. Let us to see it in the Section 3.2.

3.2 Making Bennett's Criticism (Great) Again

We have previously mentioned that Bennett aims to explain that, in the Lumpl/Statue case, the original pre-existing material ceases to exist when it becomes a Statue because Lumpl is neither identical to, nor a proper part of, Statue. Nonetheless, her PPMIPP does not explain why the Lumpl ceases to exist when it becomes another object. Perhaps her PPMIPP could be reinforced with an additional thesis to enhance its explanatory power and clarify why Lumpl is destroyed when Statue comes into the existence. We suggest that Bennett's PPMIPP could be supplemented with Michael Burke's (1994; 1997a, b) thesis of *dominant kind view*.[11]

Burke's view of cases like Lumpl and Statue is the following. The object Statue belongs to multiple kinds: *statue* and *lump of clay*. However, Statue does not have the persistence conditions associated with the two kinds because Burke considers that when an object belongs to different kinds, one kind dominates the others. The dominant kind is the one that 'entails possession of the widest range of properties' (1994: 607), acquiring the properties of the previous kind. The dominant kind is what stipulates the object's essence. In the case of Statue, the dominant kind is *statue*, which acquires the properties of the kind *lump of clay* – its physical properties – and the dominant kind *statue* apart from the physical properties of *lump of clay* has other properties, e.g. aesthetic. We said that Statue is created from a pre-existing lump of clay named Lumpl. Previous to creating Statue, the dominant kind of Lumpl is just a *lump of clay*. Lumpl, then, is essentially a lump of clay. However, if we refer to the lump of clay that exists when Statue comes into existence as Lumpl*, its dominant kind is *statue*; therefore Lumpl* is essentially a statue. Thus, Lumpl and Lumpl* are not numerically the same entity. According to Burke, Lumpl is destroyed in the process of creating Statue because the new kind dominates the previous kind and destroys, as a whole, the pre-existing material (1994: 596).

With the *dominant kind view*, Bennett can argue that why the pre-existing material (Lumpl) is neither identical nor a proper part of Statue is because Lumpl is destroyed in the process of creating the new object due to the dominance of these

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11 I am grateful to reviewers for suggesting me that Bennett might adopt *dominant kind view* to develop her criticism.

two objects by different kinds. The new object Statue it is made from a lump of clay, but is not the same as Lumpl; rather, it is another, numerically different object, Lumpl*; that is just Statue. Nonetheless, in this destruction of the pre-existing material Lumpl, its proper parts are not destroyed; they are rearranged in the new Lumpl*, which is the Statue. Thus, Bennett can now explain why the true disjunct in the premise 2a* is the latter one: L is destroyed when S is created.

Nonetheless, this strategy would not be favourable to Bennett in order to criticize Koslicki's hylomorphism; let us see why. If she assumes the *dominant kind view* in order to reinforce her explanation about why, in the Lumpl/Statue case, Lumpl is annihilated when Statue is created, then Bennett would have to take up the challenge of defending the criticisms made of the *dominant kind view*. Perhaps the most important criticism directed at Burke's proposal – that Bennett would share – is about the counter-intuitive implications.[12] This criticism is based on the persistence of the pre-existing materials. Take the following scenario: we have the amorphous lump of clay in t_1 – Lumpl – then in t_2 we modeled and created the Statue where the lump of clay is just a *statue*. Then in t_3, we flattened Statue, and we have another amorphous lump of clay – Lumpl*. The lump of clay at t_1, t_2, and t_3 are all numerically distinct, according to *dominant kind view*. This is a counter-intuitive implication because in this scenario we are only changing the shape of the lump of clay. However, we ordinarily ascribe to lumps of clay the persistence condition of continuing to be the numerically same entity despite changing its shape (if the chunk of matter does not lose or gain proper parts) (Koslicki 2008: 179; Lowe 1995: 173–6; Sider 2001: 163–4), and the change of the persistence conditions that Burke introduces with his proposal is not motivated by independent grounds (Koslicki 2008: 179, n.16).

Taking into consideration this criticism of Burke's proposal, we are in a position to say that Bennett will also have this problem if she intends to criticize Koslicki's approach based on *dominant kind view*. If Bennett says that Lumpl is not a proper part of Statue (because by *dominant kind view* the Lumpl is destroyed in the process of creating Statue), then Bennett would be attributing counter-intuitive persistence conditions to ordinary objects. On the contrary, Koslicki maintains the intuitive persistence conditions of ordinary objects by her mereological hylomorphism when she considers that Lumpl is the material proper part of Statue which needs to be supplemented with a formal proper part. At the end of the day, Bennett's PPMIPP (supplied with *dominant kind view*) is not explanatorily superior to MIPP because it has counter-intuitive implications.

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12 There are other criticisms to Burke's proposal of dominant kind view. Korman (2015: 207) considers that this proposal is ill-equipped to respond the cases of the same-kind coincidence.

Bennett aims to say that the proper parts of the Lumpl are not destroyed in the process of creating Statue, and these become proper parts of the Statue (but not Lumpl as a whole, because it is destroyed in the process). However, by introducing PPMIPP, she has created more problems than previously mentioned because the principle that she introduces is very ambiguous, and she is unclear about which proper parts are destroyed and which are maintained in the new object. Let us consider again the Lumpl/Statue case and let us to see the different options that PPMIPP opens about which are the proper parts of the resulting object in the process of creation:

(I)   **Many, but not all, proper parts**: In the principle she introduces she mentions 'many or some of the proper parts…' This is compatible with saying that only many, but not all proper parts of Lumpl are not annihilated and become proper parts of Statue. However, this is not a good answer because in the scenario we are discussing when Lumpl is modeled into Statue, it does not lose any quantity of matter. Then is not plausible to say that only many but not all proper parts of Lumpl are retained as proper parts in Statue. Perhaps, Bennett intends to say that only many proper parts of Lumpl become proper parts of Statue, but these proper parts of Lumpl, which are not proper parts of Statue are not removed of L but are simply not proper parts of Statue. But again, there are problems with that because the question now is: in virtue of what do we select some proper parts of Lumpl, but not all, to be proper parts of Statue? Any response seems to be *ad hoc* The lump of clay is characterised by containing proper parts that are homogeneous among them, their differences are only from accidental properties such as spatial location or colour. Further, how is it possible that L's proper parts, which are not proper parts of S, continue existing without not being removed from L and not being proper parts of S? This first reading of the Bennett principle we can consider that it is not acceptable – even for Bennett – because it would imply removing parts of L to bring into existence S, and it would entail a substantial change from the scenario that Koslicki is discussing.

The Bennett's principle has different readings and the most plausible to the case of Lumpl/Statue seems this:

(II)   **All proper parts**: Despite the Lumpl as a whole is destroyed when Statue is created because these two different objects have different dominant kind, all proper parts of Lumpl are maintained, not annihilated, and become proper

parts of Statue.[13] Nonetheless, the problem with this reading is the previous mentioned to Burke and Bennett: they are not retained the intuitive assumption that the Lumpl is not destroyed just by changing its shape. Bennett intends to say that all the proper parts of Lumpl will be maintained in the process of creating Statue, but not the improper part of Lumpl. However, in the way that the scenario is described, where we have a pre-existing material, Lumpl, and only by a change in the shape do we create a new object, Statue, of a kind statue, it seems mysterious how it is possible to only use all the proper parts of Lumpl to create Statue, but not also use the improper part of Lumpl. There is no justification for that, and it seems a miracle that in the way that Koslicki presents the scenario we may use only all the proper parts of Lumpl, but not the improper part of Lumpl to bring Statue into existence.

As Koslicki says (2008: 179, n.16) the *dominant kind view* is not sustained on independent grounds, and therefore it is not a favourable strategy to Bennett to criticise the Koslicki's proposal because her at least attributes persistence conditions to Lumpl that are grounded on the persistence conditions that ordinary we attribute to these material objects.

At the end of the day Bennett's criticisms is not superior explanatorily to Koslicki's mereological hylomorphism because Bennett needs to assume the controversial thesis of *dominant kind view*, and this proposal has important counter-intuitive implications that different philosophers, including Koslicki, have advanced.

3.3 Final Remark: An Available and Preferable Reply to Bennett

Previously I mentioned that other philosophers have replied to Bennett's criticism of Koslicki's *Neo-Aristotelian Thesis.* Now, I would like to explain why the reply we have been making to Bennett is better than the already available literature.

Toner (2013), and Tomaszewski (2016) have made different replies to Bennett, and they have shown how we can still maintain the *Neo-Aristotelian Thesis* of Koslicki's proposal. I will not reconstruct all the arguments from Toner (2013), and Tomaszewski (2016) in defence of NAT. I will just mention the new philosophical tools that they are using to reply to Bennett. On the one hand, Toner, to defend NAT, introduces the notion of *extended simple* to argue that it is the case that we still need

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13 We are assuming that Bennett is not committed to the controversial *Constitution is Identity* thesis, in which an object is the sum of its parts. We assume that Bennett is committed to the thesis that the whole is more than the sum of its parts.

formal proper parts in the scenario where from *L*, we create a new object *S*. Consider *L* as an extended simple – an object that does not contain material proper parts, because the material part of an extended simple is the improper part, that is, the extended is simply that material part – then if *L* constitutes *S*, *S* does not contain more proper parts than *L* because *L* does not contain proper parts. Applying Leibniz's Law, *L* and *S* are different, and with the Weak Supplementation Principle we need another proper part in *S*, and it is the formal proper part. Toner says here that we do not need PPMIPP or MIPP, because *L* does not contain proper parts, in virtue of being an extended simple (2013: 153–4).

On the other hand, Tomaszewski tries to block Bennett's criticism, arguing that it is possible to defend the soundness of the *Neo-Aristotelian Thesis*, even accepting PPMIPP, if we change the Weak Supplementation Principle by the Strong Supplementation Principle (if *x* isn't a part of *y*, then *x* has a part that doesn't overlap *y*) (2016: 524).

Our alternative way to defend Koslicki's proposal is better than the strategies of Toner (2013), and Tomaszewski (2016) because their arguments are introducing new theoretical stuff when it is not necessary, as we have already seen in the analysis of the Lumpl/Statue case. It is possible to defend the *Neo-Aristotelian Thesis* (NAT) in a more simplified manner by highlighting the inaccuracies in Bennett's reconstruction and response. The premise 2, which asserts that Lumpl is a proper part of Statue, is the primary point she aims to critique. However, as we explained previously, it is more plausible consider that this premise is derived from two earlier premises: the 2a, which proposes that Lumpl and Statue are either identical or that the former is a proper part of the latter, and the 2b, which asserts that Lumpl and Statue are not identical; by Leibniz's Law. Nevertheless, Bennett's criticisms appear to be focused on challenging premise 2a, suggesting that it doesn't cover all possibilities and requires modification. She introduces a revised version, 2a*, which proposes that Lumpl is destroyed upon the creation of Statue. Nonetheless, we have shown that Bennett is ill-equipped to explaining why the Lumpl is annihilated when Statue is create, her PPMIPP alone cannot explain that and she should reinforce her principle with *dominant kind view*, which have several problems. At the end of the day Bennett is not explanatorily superior to Koslicki's NAT because Bennett's proposal cannot maintain a basic intuition in the cases of constitution, as in a lump of clay constituting a statue, because she must deny the improper part of the lump of clay disappears when constituting the statue.

The way we have presented here to defend Koslicki's hylomorphism is more consonant with Koslicki's reasoning and motivations and simpler because we are not adding new philosophical stuff to defend her proposal (viz. Toner [2013] with

extended simples, and Tomaszewski [2016] with the Strong Supplementation Principle), and at the same time we are maintaining Koslicki's motivations (viz. the Weak Supplementation Principle that Tomaszewski denies).

4 Conclusions

We have seen, Bennett's criticism of Koslicki's mereological hylomorphism, arguing that the argument from the *Neo-Aristotelian Thesis* is an incorrect argument because one of its premises is false (premise 2), meaning that we cannot deduce that objects contain proper parts of different types: material and formal. The objects do not have formal proper parts. In her criticism, Bennett denies the principle behind premise 2 (MIPP) in Koslicki's proposal it is not the best one because there are cases like the that such principle cannot explain. Bennett proposes another more plausible principle (PPMIPP) that she says is explanatorily superior to MIPP because it can explain the problematic case and all the other cases that MIPP explained. As such, Bennett's principle falsifies premise 2 of the argument from the *Neo-Aristotelian Thesis*.

In the present work, we have seen that the way in which Bennett intends to falsify premise 2 of the argument for NAT is unsound because she needs to assume the controversial thesis of *dominant kind view* in order to explain why Lumpl is destroyed when Statue is created. This controversial assumption is contrary to the intuitions that we ordinarily have about the persistence conditions of the material objects and introduces new counter-intuitive persistence conditions that are not motivated on independent grounds. The introduction of Bennett's PPMIPP is insufficient to satisfy her aim which is to explain why Lumpl is not a proper part of Statue. Furthermore, if is supplemented with dominant kind view, then it entails all of its criticisms, which Koslicki avoids. Bennett appears to be in a dilemma: either she does not supplement her PPMIPP, leaving it insufficient to explain why Lumpl is not a proper part of Statue, or she supplements her PPMIPP with *dominant kind view* entailing all the counter-intuitive implications of this thesis and leaving her in a worse position than Koslicki. Therefore, we can conclude that Bennett's criticism of Koslicki's mereological hylomorphism is not a sound critique and mereological hylomorphism is a better proposal because it can explain the Lumpl/Statue case without embracing those counter-intuitive thesis.

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