Parts of Ockham's razor and their counterparts

Ghislain Guigon

Submitted draft—do not circulate of cite without asking permission

ABSTRACT: William of Ockham seems to have endorsed the view (i) that a whole *is* its parts, (ii) that some things are such that whether they together compose a whole is contingent, and (iii) that parts are ontologically prior to the whole they compose. Ockhamist Composition as Identity is the conjunction of these three claims. It seems doubly absurd since Leibniz's Law arguments can be run against both the conjunction of (i) and (ii) and that of (i) and (iii). In this article, I appeal to recent developments in counterpart theory to block these arguments and adequately interpret the Ockhamist version of the view that composition is identity.

1. Ockhamist composition as identity

In his *Summula Philosophiae Naturalis* I, 19, William of Ockham writes:

> But concerning artefacts (…) one part can remain distinct from another, which means that in the natural order of things the parts can exist together all at once even when they are not united. Accordingly, it is not the case that always and necessarily this whole *is* these parts, when they [viz. the parts] are existing. It is only the case that it *is* these existing parts when the parts are united in the required manner and situated in the right place and in the appropriate manner. (Ockham 1974-1988, vol. 6, 206; my emphasis)[1]

Nowadays we call "composition as identity" the doctrine according to which a whole *is*, or is identical to, its parts taken together. Ockham seems to think that artefacts are wholes that are identical to their parts taken together. He also seems to think that other types of wholes, substances, are identical to their parts, that are its matter and form, taken together:

---

[1] Translation by Andrew Arlig (2012: 461); see Panaccio 2015: 72 for a slightly different translation.

I say that beyond the parts that are matter and form, there is no third entity distinct from these. So a composite is neither matter, nor form, but matter and form together, united and conjoined.[2]

Therefore, over and above matter and form, it [the substance] is nothing other than a certain composite that is nothing other than its parts joined together.[3]

But Ockham says something distinctively puzzling about artefacts: he seems to be saying that their identity with their parts is *contingent*.[4]

Why does Ockham endorse this claim? Roughly, according to him, whether a whole is its parts depends on whether and how the parts are related, which is contingent for artefacts. But, for Ockham, relations are not modes of being but mere modes of *signifying*. In other words, he thinks that there is no relation out there in the mind-independent world, despite the fact that there are true relational predications about the external world.[5] If we combine this claim with the claim that composition depends on whether and how things are related to each other and the claim that some things are such that whether and how they are related is contingent, then the conclusion that some whole is contingently its parts seems natural.

But this conclusion is challenged by a familiar kind of Leibniz's Law argument. Consider Ockham's razor, which I call Reznor. Reznor is composed of a blade (Blenda), a handle (Hansel), and a joint (John) today. From the claim that Reznor is identical to Blenda, Hansel, and John today, and the claim that Reznor, on the one hand, and Blenda, Hansel, and John, on the other hand, might not have been identical today, it seems to follow that Blenda, Hansel, and John, on the one hand, and Blenda, Hansel, and John, on the other hand, might not have been identical today. But this conclusion is absurd.

---

[2] *Sum. Ph.* 1. 19 (*Opera Philosophica,* VI, 206, II. 30-3); translation by Richard Cross (1999: 149).

[3] *Sum. Ph.* 1. 19 (*Opera Philosophica,* VI, 206, II. 26-9); translation by Richard Cross (1999: 150).

[4] He also seems to be saying that their identity with their parts is temporary. For further evidence : "It comes out therefore that a whole is nothing but all its parts; not always though, but only when the parts are situated with respect to each other, or ordered with respect to each other, or united with each other in the required way … sometimes it is required that the parts be in the same place at the same time, sometimes that they be contiguous to each other in such a way that nothing is intermediate between them, and sometimes it can be the case that there is something intermediate, but then a right order is required, like in the case of several human beings making one people." *Opera Philosophica,* VI, (*ibid.,* 208) In this article, I focus on the claim of contingency. But what I will say about the contingent identity of a whole with its parts can *mutatis mutandis* be said about the temporary identity of a whole with its parts.

[5] See Panaccio 2015: 111-12, Cross 1999, Adams 1987: 215-76, Henninger 1989: 119-49, Beretta 1999, and Roques forthcoming.

There is another problem. Ockham also endorses the claim that integral parts are ontologically prior to the integral whole they compose — where things like houses, horses, and statues are integral wholes.[6] Following Jonathan Schaffer (2010), I call *priority pluralism* the claim that parts of a whole are ontologically prior to the whole they compose. Priority pluralism may also seem to be a natural consequence of Ockham's belief that composition depends on whether and how things are related although there are no such things as relations in the external world. But a further Leibniz's Law argument can be used to show that priority pluralism and the claim that a whole is its parts taken together are incompatible. Roughly, the problem is that identity is reflexive, whereas ontological priority is asymmetrical and, therefore, irreflexive.

The view about composition that I ascribed to Ockham seems doubly absurd: (i) since identity is not contingent there is no way a whole can be contingently identical with its parts; (ii) since ontological priority is irreflexive, there is no way parts can be both ontologically prior and identical to the whole they compose. In this article, I offer solutions to these two puzzles.

But let me immediately emphasise that these puzzles possibly miss their historical target. There is textual evidence that the medieval understanding of identity differs from the contemporary notion of identity that obeys Leibniz's Law. If so, it may be that Ockham, like other medieval thinkers, would deny that from "x is y" and "x is F", it follows that y is F.[7] This interpretation solves the two puzzles that I just sketched but at the cost of obscuring the meaning of Ockham's claim that a whole *is* its parts for a contemporary reader. I will not pursue this line of response. I prefer working with a notion of (many-one) identity that I think I understand even at the cost of exegetical inaccuracy. Indeed, it is not my goal in this article to interpret Ockham nor to defend or attack him.

I call "Ockhamist Composition as Identity" (for short OCI) the view, inspired by Ockham, that I am interested in. OCI is the conjunction of the following three claims, where '**x**', '**y**' … stand for plural and 'x', 'y', … for singular variables ranging over material objects, and where it is assumed that identity obeys Leibniz's Law:

1. Composition as identity (CI): for all **x** and all y, **x** compose y if and only if **x** together are identical to y;

---

2.   Contingency of composition (CC): For some **x** and some *y*, it is both the case that **x** compose *y* and that **x** might not have composed *y*;

3.   Priority pluralism (PP): for all **x** and all *y*, if **x** compose *y*, then **x** are ontologically prior to *y*.

It is worth mentioning that there are two possible readings of CC. The first one allows for the possibility of *mereological switching* — some things might have composed a whole that is not the whole they actually compose or some whole might be composed of parts that are not those that actually compose it. The second one merely allows for the possibility of *no-composition* — some things are such that they might not have composed anything, although actually they do. The first reading allows for violations of the principle of extensionality of classical extensional mereology, the second reading allows for violations of universalism.[8] Ockham's writings suggest that he allows for the possibility of no-composition, but there is no evidence that he allows for the possibility of mereological switching. Indeed, I think that the conjunction of PP and CC is more plausible if the proponents of OCI are interpreted as holding that no-composition, but not mereological switching, is possible. This is how I will read CC in what follows. Nevertheless, I will discuss interpretations of both the claim that no-composition is possible and the claim that mereological switching is possible.

The view that composition is identity has received significant attention recently,[9] and OCI is interesting in this context. Each of CI, CC, and PP has proponents in the contemporary literature,[10] each is also controversial: CI is a strong version of the view that composition is identity that is not very popular, CC conflicts with classical extensional mereology, and priority monists deny PP (Schaffer 2010). But this article is not concerned with their truth, it is concerned with the tenability of their conjunction.

My goal is to show that, with the right metalanguage to interpret *de re* modal and ontological priority idioms, Leibniz's Law arguments against the conjunction of CI and CC and that of CI and PP are not conclusive. This metalanguage is counterpart-theoretic. But the interesting part is that Lewis's (e.g. 1983a and 1983b) original counterpart theory is not expressive

---

[8] The principle of extensionality says that, for any *x* and *y*, *x* and *y* are identical if and only if they have the same parts. The principle of universalism says that, for any **x**, there is a *y*, such that *y* is the mereological sum of **x**.

[9] Cf. Cortnoir and Baxter (2014).

[10] First, CI is appealing because it preserves and explains minimalist intuitions about counting (Varzi 2000) and because it is ontologically parsimonious. Second, the Ockhamist view that composition depends on how things are arranged, and so that it is contingent and not *a priori* whether it takes place, is gaining popularity in metaphysics and philosophy of science; see e.g. Simons 2006 and Jansen and Schulz 2014.

enough to block Leibniz's Law arguments against CI *cum* CC and CI *cum* PP. The counterpart theorist needs advanced counterpart-theoretic tools to accurately interpret instances of CC and PP and block these arguments. My defence of OCI is meant to illustrate the theoretical utility of these tools; no more, no less.

The structure of the argument is the following. In section 2, I use a plural extension to counterpart theory to block the Leibniz's Law argument against the conjunction of CI and CC. In section 3, I combine a plural counterpart theory with a counterpart-theoretic account of ontological priority to block the challenge to the conjunction of CI and PP. Section 4 is a brief conclusion that connects the content of Section 3 with the current debate between priority monists and pluralists.

2. Composition as contingent identity

OCI is committed to the conjunction of CI and CC, *i.e.* the claim that a whole is contingently identical with its parts. Yet we can run a Leibniz's Law argument to derive an absurdity from this claim; where I use '°','°' as brackets to form lists and avoid ambiguities:

(1) °Blenda, Hansel, and John° compose Reznor today.   Assumption

(2) °Blenda, Hansel, and John° might not have composed Reznor today.[11]   Assumption

(3) °Blenda, Hansel, and John° are identical to Reznor today.   CI on (1)

(4) °Blenda, Hansel, and John° and Reznor might not have been identical today.[12] CI on (2)

(5) °Blenda, Hansel, and John° and °Blenda, Hansel, and John°

     might not have been identical today.   LL on (3) and (4)

   ⊥

The conjunction of (1) and (2) is an arbitrary instance of (CC). (5) is absurd. Therefore, if this argument is sound, it shows that the conjunction of CI and CC is absurd.

The problem seems to be that CI and CC together entail a claim of contingent identity – (4) in the previous argument. David Lewis (1983) has argued that this sort of Leibniz's Law arguments can be blocked if we interpret claims of contingent identity using counterpart theory.

---

[11] The intended reading of (2) is "Blenda, Hansel, and John, on the one hand, and Reznor, on the other hand, are possibly such that the former do not compose the latter today."

[12] (4) reads "Blenda, Hansel, and John, on the one hand, and Reznor, on the other hand, are possibly such that the former are not identical to the latter today".

Unoriginally,[13] I propose to resist the Leibniz's Law argument against CI *cum* CC using counterpart theory. But there is a technical limitation that has been underappreciated in the literature: Lewis's original counterpart theory is a singular first order logic. As such it provides us with an interpretation of *singular de re* modal claims but with no interpretation of *plural de re* modal claims in which plural terms denote collectively. Yet such an interpretation is needed to block the derivation of (5) from (3) and (4). If so, counterpart theorists need a plural counterpart theory that allows for *collective* predications of counterparthood.[14] In what follows I give an informal account of a plural extension of counterpart theory and then use it to block the Leibniz's Law argument against CI *cum* CC.

In Lewis's original counterpart theory, counterparts are *possibilia*, *i.e.* entities located in possible worlds. A counterpart of something is a representative of this thing in the possible world it is in; it plays its role there. The relevant representation relation is a complex relation of comparative overall similarity. The standard understanding of counterparthood in Lewisian counterpart theory is the following:

(SC) *Singular Counterpart*: for all x and y, x is a counterpart of y iff x is similar to y and there is no z in x's world such that z is more similar to y than x is;

where it is assumed that similarity relations are highly sensitive to how things are represented within a context. Which possible thing is a counterpart of something depends on which respects of similarity and dissimilarity are relevant and on their relative importance for comparison. Relevance and importance vary with our goals and interests as well as with the way things are designated or described.

According to counterpart theory, "*a* is necessarily *F*" is true at a world w and context of use C if and only if, at C, for all world v and every x, if x is a counterpart of a in v, then x is F; and "*a* is possibly *F*" is true at a world w and context of use C if and only if, at C, for some world v and some x, x is a counterpart of a in v and x is F. The outcome is that the truth value of *de re* modal claims is highly context sensitive, according to counterpart theory. Variations of counterpart

---

[13] Cf. Merricks 1999.

[14] Cotnoir (2013) also appeals to collective plural counterpart relations in connection with the metaphysics of composition but Cotnoir's paper is not concerned with composition as identity and he focuses on one specific counterpart relation which is a relation of exact similarity with respect to location and which does not have the characteristic formal properties of counterparthood.

relations within a single *de re* modal context relative to how things are described or designated are also allowed (Lewis 1983b).[15]

Lewis's original counterpart theory provides us with an interpretation of singular *de re* modal claims. But it fails to provide an interpretation of *plural de re* modal claims like the following:

(6)　The Rolling Stones could have had another guitarist.

(7)　The students could be surrounding the building.

(8)　There are critics who possibly admire only one another.

(9)　The sons of Fyodor Karamazov are necessarily brothers.

A satisfactory interpretation of such plural *de re* modal claims requires a many-many counterpart relation that can be understood as follows:

(PC) *Plural Counterpart*: for all **x** and **y**, **x** are counterparts of **y** iff **x** are similar to **y**, and there are no **z** in the world **x** are in, such that **z** are more similar to **y** than **x** are (where $\mathbf{x} \neq \mathbf{z}$ iff there is an x that is among **x** but not among **z** or is among **z** but not among **x**).

Plausibly, there are plural modal contexts in which it is adequate to interpret plural counterparthood as *distributive – i.e.* as satisfying the following principle:

If **x** are counterparts of **y**, then, for all $x_1, x_2, \ldots, x_n$ among **x** and all $y_1, y_2, \ldots, y_n$ among **y**, x_1 is a counterpart of y_1, x_2 is a counterpart of y_2, …, and x_n is a counterpart of y_n.

Plausibly, there are also plural modal contexts in which it is warranted to interpret plural counterparthood as *cumulative – i.e.* as satisfying the following principle:

For all $x_1, x_2, \ldots, x_n$ among **x** and all $y_1, y_2, \ldots, y_n$ among **y**, if x_1 is a counterpart of y_1, x_2 is a counterpart of y_2, …, and x_n is a counterpart of y_n, then **x** are counterparts of **y**.[16]

---

[15] See Divers 2002: Chapter 8 for a defence of counterpart theory – understood as a semantics – against classical objections to it; see Merricks 2003 for further objections to counterpart theory and Woodward 2017 for a reply to Merricks and an ersatzist version of counterpart theory. In this paper, I wish to remain neutral regarding the version of realism about possible worlds – genuine or ersatz – that one should combine with counterpart theory.

[16] Cf. McKay 2006 on the *distributive* vs. *cumulative* distinction.

But it would not be adequate to presuppose that plural counterparthood is distributive and cumulative in every context. For instance, a correct interpretation of (6) requires a non-distributive — in other words *collective* — reading of the counterparthood predicate involved in its counterpart-theoretic interpretation, which is the following:

(6') (i) Some x is the guitarist of the Rolling Stones, and (ii) there is a world w, some y and some z in w such that y are counterparts of the Rolling Stones, z is the guitarist of y, and z is not a counterpart of x.

If we interpret the plural counterpart relation involved in (6') distributively, then we run into a contradiction. A distributive reading of "counterparts of the Rolling Stones" is such that by this phrase we mean "counterparts of the singer, the guitarist, the bassist, and the drummer of the Rolling Stones". Thus read, counterparts of the Rolling Stones cannot fail to have among them a counterpart of the guitarist of the Rolling Stones, which turns (6') into an absurdity. But instead if we assign importance to *collective* actions of the band and events involving them – the moment of the creation of the band, their performances and the records they made – a collective reading of (6') is warranted which yields no absurdity. Clearly, as (6) is not absurd, it is such a collective reading that is required.

Allowing for collective readings of plural counterparthood implies allowing for collective similarities. Some philosophers have argued that similarity is distributive.[17] But a commitment to collective similarities is a natural consequence of a commitment to collective plural predications. To take a relevant example, if x compose a table and y compose a table, then x and y are similar in this respect. Or, if Parisian students are surrounding La Sorbonne and Roman students are surrounding La Sapienza, then Parisian and Roman students are similar in this respect; yet this is a collective similarity between them.

It can now be shown how plural counterpart theory can be used to block the Leibniz's Law argument against CI *cum* CC. Let us say that when we conceive of Blenda, Hansel, and John as parts, we are conceiving of them through the *component* counterpart relation or *qua* components. Blenda, Hansel, and John *qua* components are such that great importance is assigned to some of their individual characteristics and little or no importance is assigned to how they are related together. On the other hand, let us say that when we conceive of Blenda, Hansel,

---

[17] Cf. Butchvarov 1966: 111-112 and Rodríguez-Pereyra 2002: 80-1. Rodriguez-Pereyra's argument is intended as restricted to *sparse* resemblances, however: these resemblances that contribute to making ascriptions of sparse properties true. Perhaps he can argue that the resemblances I am considering are not sparse.

and John as Reznor — *i.e.* as a whole — we are conceiving of them through the *composite* counterpart relation or *qua* composite. But how we fix the composite counterpart relation depends on whether we allow for the possibility of *mereological switching* or merely for the possibility of *no-composition* (cf. Section 1). If we want to allow for the possibility of mereological switching, then composite counterparts of Blenda, Hansel, and John should be selected by assigning great importance to how they are related together, and perhaps also how they *function together* (as blade for Ockham to shave his head), and much less importance to their individual traits. But, as I interpret Ockhamists, they allow for the possibility of no-composition but deny the possibility of mereological switching. If so, composite counterparts of Blenda, Hansel, and John should be selected by assigning equally great importance to *both* these individual characteristics that are relevant for component counterparthood and how they are related together. I will say that the second composite counterpart relation is *anchored* and call it "A-composite counterpart relation", and I will say that the first one is *loose* and call it "L-composite counterpart relation".[18]

Having distinguished between component and composite counterpart relations, we can now offer counterpart-theoretic interpretations of (4) — the claim that Blenda, Hansel, and John, on the one hand, and Reznor, on the other hand, might not have been identical today. But there are two readings of (4) depending on whether we allow for possible mereological switching or merely for the possibility of no-composition. The counterpart-theoretic translation of the first reading of (4) is the following:

(4') There is a world *w* some **x,** and some **y** such that **x** are the unique component counterparts of Blenda, Hansel, and John in *w*, **y** are the unique L-composite counterparts of Blenda, Hansel, and John in *w*, and **x** ≠ **y** today.

For illustration, suppose that the component counterpart relation is fixed by assigning great importance to similarity with respect to individual origin of Blenda, Hansel, and John and little or no importance to how they are related together. Suppose that the composite counterpart relation is loose: it is fixed by assigning great importance to similarity with respect to how Blenda, Hansel, and John are assembled together while no importance is assigned to individual traits like their individual origin. Then suppose that, in *w*, there is a blade, a handle, and a joint that are closely similar in origin to Blenda, Hansel, and John but have never been assembled together, and that

---

18 The set of A-composite counterparts of Blenda, Hansel, and John turns out to be the intersection of the set of component counterparts of Blenda, Hansel, and John and the set of their L-composite counterparts.

there is another blade, another handle, and another joint, that are assembled together and used by Ockham's counterpart in *w* to shave his beard.

However, I interpret proponents of OCI as endorsing the possibility of no-composition and denying the possibility of mereological switching. If so, the correct counterpart-theoretic translation of (4) is (4''):

> (4'') There is a world *w* such that Blenda, Hansel, and John have component counterparts **x** in *w* but no A-composite counterparts in *w* today.

For illustration, suppose again that the component counterpart relation is fixed by assigning great importance to similarity with respect to individual origin of Blenda, Hansel, and John and no importance to how they are related. But this time suppose that the composite counterpart relation is anchored: it is fixed by assigning equally great importance to both similarity with respect of individual origin to Blenda, Hansel, and John *and* how they are related to each other. Then suppose that, in *w*, there is a blade, a handle, and a joint that are closely similar in origin to Blenda, Hansel, and John, but that all these things are *disassembled,* scattered around *w*. Then this world vindicates (4'') but not (4').

Now the following is the counterpart-theoretic translation of (5):

> (5') There is a world *w*, some **x**, and some **y** such that **x** are the unique component counterparts of Blenda, Hansel, and John in *w*, **y** are the unique component counterparts of Blenda, Hansel, and John in *w*, and **x** ≠ **y** today.

(5') is absurd. However, (5') follows neither from (3) and (4') nor from (3) and (4'') by Leibniz's Law. This is the intended result: an adequate plural extension of counterpart theory blocks the Leibniz's Law argument against CI *cum* CC.

3. The compatibility of composition as identity and priority pluralism

But Ockhamist composition as identity is not saved yet. A second Leibniz's Law argument, targeting the conjunction of CI and PP, can be run against it:[19]

> (1) °Blenda, Hansel, and John° compose Reznor.　　　　　　　　　　　Assumption
>
> (10) °Blenda, Hansel, and John° are ontologically prior to Reznor.　　　　PP on (1)

---

[19] (1') is a variant of (1) without the index "today". I dropped it in this argument because it is dispensable here.

(11) °Blenda, Hansel, and John° are identical to Reznor.   CI on (1)

(12) °Blenda, Hansel, and John° are ontologically prior to
      °Blenda, Hansel, and John°.   LL on (10) & (11)

⊥

(12) is absurd on the assumption that ontological priority is asymmetrical, and therefore, irreflexive.

As I mentioned *en passant* in Section 2, the idea of using counterpart theory to deal with the Leibniz's Law argument against CI *cum* CC is not new. But a counterpart-theoretic solution to the Leibniz's Law argument against CI *cum* PP would be new. Can we use counterpart theory to deal with this argument? Most contemporary metaphysicians would answer negatively. They would say: "Counterpart theory targets *de re* modal discourse. But the objection to CI *cum* PP does not involve any *de re* modal sentence. Of course, some philosophers used to think that ontological priority is a modal notion. But we have learned that they were mistaken, that modal analyses of ontological priority and cognate notions are a failure."[20]

I agree that, understood as *conceptual analyses* of the Aristotelian notion of ontological priority, modal accounts of this notion have been refuted. But my goal is not to propose a conceptual analysis of the Aristotelian notion of ontological priority. I know that the Aristotelian notion of ontological priority does not help to solve my problem. What I am looking for is an adequate proxy for the Aristotelian notion of ontological priority – one that is sufficiently close to it in these respects that I judge indispensable but differs from it in those respects that, for me, are a burden – that allows for a satisfactory account of the idea that parts are ontologically prior to the whole they compose according to which CI and PP are compatible. This adequate proxy is counterpart-theoretic, or so I contend.[21]

---

[20] See e.g. Fine 1995, Correia 2005, Schaffer 2009, and Rosen 2010.

[21] I have offered a counterpart-theoretic interpretation of grounding discourse elsewhere; cf. Author X. What I am proposing here is an adaptation of this account to ontological priority. Here are what I regard as important and relevant differences between grounding and ontological priority: First, I take grounding to be a relation between facts or true propositions, whereas *onto*logical priority is about things; second, I assume that grounds *necessitate* what they ground – although I give a counterpart-theoretic account of this necessitation – whereas I do not assume that if **x** are ontological prior to **y**, then the existence of **x** necessitates the existence of **y**. The reason for this is that, according to me and according to the Ockhamist view I am considering, it can happen that the existence of something (a composite) is not *fully* grounded in other existence facts (the existence of its pars). In order to get *full* grounding, we also need a fact about *how* the parts are arranged, where a fact about *how* the parts are arranged does not imply any existential fact about relations.

But first, notice that when authors say things like "the parts are ontologically prior to their whole", they mean something that isn't *mere* ontological priority. To see this, suppose that my cells are ontologically prior to me, that your cells are ontologically prior to you, and that my cells are ontologically as fundamental as yours. Then plausibly my cells are ontologically prior to you. Yet the relation of ontological priority between my cells and you, or your cells and me, is less intimate than the one we target when we say things like "the parts are ontologically prior to the whole they compose". We can distinguish between ontological priority *within a structure*—e.g. a part-whole structure—and *cross-structural* ontological priority—e.g. between my cells and you. Some call "existential dependence" or "grounding"[22] what I roughly mean by "ontological priority within a structure". But I don't want to enrich my ideology beyond necessity. In what follows, I will use "ontological priority" exclusively for "ontological priority within a structure".

This being clarified, my understanding of what it is for some things to be ontologically prior to some things within a structure is based on what engineers mean when they say that a part of a structure is a *foundation* within this structure. Here is how experts characterize your home's foundation:

> Your home's structural integrity depends on the strength of your foundation. It supports everything else – walls, windows, floors, doorways, roof – so when your foundation is damaged, it can cause serious problems throughout your home. (Olshan Foundations™, www.olshanfoundation.com/foundation-repair/signs-of-foundation-problems)

And here is what experts in bridge construction say about bridge foundations:

> All bridges start with a good foundation. Whether the bridge will be recreational or highway use it is important to pay attention to the foundation. Without the proper foundation the bridge may not perform properly or, more importantly, fail. (Wheeler™, www.wheeler-con.com/recreation-bridges/bridge-foundations)

Elements of a structure play the foundation-role in this structure when they together support the whole structure. Notice that these experts seem to appeal to counterfactual scenarios to explain the difference between elements that play the foundation-role and other elements within a structure. They are telling us that a weak or damaged foundation is likely to cause serious damages in the entire structure or its collapse, more so than any damage in non-foundational

---

[22] Correia 2005, Schaffer 2009.

elements of the structure. This understanding of what it is to be a foundation is at the core of my favourite account of ontological priority.

I account for this in terms of demolition scenarios. Imagine two demolition scenarios about the Small Tower, a simple building with just a foundation and a single floor on top of it. Suppose that some demolishers aim to demolish exactly one of the two floors of the Small Tower — either its foundation or its top floor — but not both, and they use explosives to do so. In scenario A, they place their explosives at the foundation level; in scenario B, they place them at the level of the top floor. The explosion takes place. In which scenario is it more likely that exactly one of the two floors collapses? Other things being equal, this is much more likely in scenario B than in scenario A. For since the foundation supports the entire building, the entire building is likely to collapse in scenario A but less likely to collapse in scenario B. We can represent this thought in terms of closeness relations among worlds: some world in which the top floor is demolished and the foundation remains intact is closer to our world than any world in which the foundation is demolished and the top floor remains intact. This is the model that I use as a first approximation of how ontological priority should be construed.

I assume that the ontological priority predicate can take plural terms at both sides — my cells are ontologically prior to my head, arms, legs, and torso. Let a $\mathbf{x\bar{y}}$-world be a world in which $\mathbf{x}$ exist but $\mathbf{y}$ do not exist and let a $\mathbf{\bar{x}y}$-world be a world in which $\mathbf{x}$ don't exist but $\mathbf{y}$ do. Importantly here, worlds can be either possible or *impossible*. Then this is the understanding of ontological priority that I have in mind:

> (Proto-OP) "$\mathbf{x}$ are ontologically prior to $\mathbf{y}$" is true at w iff some $\mathbf{x\bar{y}}$-world is closer to w than any $\mathbf{\bar{x}y}$-world.

According to (Proto-OP) "Blenda, Hansel, and John are ontologically prior to Reznor" is interpreted as "some world in which Blenda, Hansel, and John exist but Reznor doesn't exist is closer to our world than any world in which Reznor exists but Blenda, Hansel, and John do not exist".

Indeed, suppose, following Ockham, (a) that a whole *is* its parts and (b) that whether an artefact like Reznor exists varies with how Blenda, Hansel, and John are related together. Then there is a close possible world in which Blenda, Hansel, and John, being disassembled, exist but Reznor does not exist. But there is no close possible world in which Reznor does exist but its parts don't. Arguably, on these Ockhamist assumptions, a world in which Reznor exists without being composed of Blenda, Hansel, and John is metaphysically impossible. This is the reason why

13

I do not want to assume that every relevant world is possible. On the plausible assumption that every possible world is closer to our world than any impossible world is, this vindicates (Proto-OP).

One may think that the last paragraph suggests that appealing to impossible worlds is a dispensable *façon de parler* when the subject matter is material composition, given CI and CC. We could as well have said that there is a possible world in which the parts exist without the whole, while there is no possible world in which the whole exists without the parts. Indeed. But, for greater generality, it is useful to allow for quantification over impossible worlds in (Proto-OP) because some authors are convinced that there are true instances of "**x** are ontologically prior to **y**" such that **x** necessarily coexist with **y** and *vice versa*.[23]

So far I have talked as if objects were *transworld* individuals — *i.e.* as if they were entities that can exist in different possible, or impossible, worlds. But strictly speaking counterpart theorists deny this. Instead, they believe that things are worldbound; that, for each object, there is exactly one world at which it exists. Thus, strictly speaking, I should have been talking about actual things and their *representatives* in other worlds, their counterparts, because this is what I meant. But here again there is a technical limitation with Lewis's original counterpart theory. Since Lewis (1986) rejects impossible worlds, his counterpart theory is such that only *possibilia* can be counterparts. But if we allow for impossible worlds, it makes plain sense to think that things also have *impossible* counterparts. My impossible counterparts can be thought of as my representatives in impossible worlds. But I think that the right methodological order is rather to take impossible worlds are worlds in which my impossible counterparts are. Thus I take the relevant distinction between possible and impossible worlds to be restricted, relative, derivative on the relevant distinction between possible and impossible counterpart relations, and so as flexible as counterparthood is. I illustrate this below.

Allowing for impossible counterparts, and for *plural* counterpart relations involving these, one can offer the following counterpart-theoretic version of (Proto-OP):

(CT-OP) "**x** are ontologically prior to **y**" is true at *w* and context of use *C* iff, at *C*, a world in which **x** have counterparts but **y** have no counterparts is closer to *w* than any world in which **y** have counterparts by **x** have no counterparts.

---

[23] Cf. Krakauer 2012. It is Krakauer's proposal that inspired (Proto-OP). However, Krakauer's proposal is challenged by difficulties with cases of *multiple realizability* that does not challenge my counterpart-theoretic variant of it. For more on this, cf. Author X.

Notice that, according to (CT-OP), the asymmetry of ontological priority derives from the asymmetry of the closeness ordering among worlds.

I regard (CT-OP) as satisfactory for my goals. But again do not read this claim as something it is not meant to be: (CT-OP) is not intended as a *reductive* analysis of the Aristotelian notion of ontological priority. (CT-OP) is designed to be context-sensitive, whereas the Aristotelian notion of ontological priority is context-insensitive. The former notion is a flexible proxy for the latter, it is both dissimilar enough and close enough to the Aristotelian notion of ontological priority to meet my theoretical goals. Ultimately, I think that the decision between the Aristotelian notion of ontological priority and my proxy for it should depend on their capacity to provide satisfactory interpretations of beliefs about what is ontologically prior to what. Yet I think mine provides us with a fairer interpretation of OCI than the Aristotelian notion does.[24]

Given (CT-OP), I am now able to provide an account of the claim that parts are prior to their whole that does not conflict with CI nor with the assumption that ontological priority is irreflexive. What I need is to appeal to the distinction between component and composite counterpart relations introduced in Section 2:. Thus focusing on my Ockham's razor example and assuming CI, (CT-OP) yields the following counterpart-theoretic account of (10):

(10') Some world *v* in which Blenda, Hansel, and John have component counterparts **x** but no composite counterparts is closer to our world than any world *u* in which Blenda, Hansel, and John have composite counterparts **y** but no component counterparts.

---

[24] I discuss further objections to (CT-OP) about commitment to impossible worlds, about cases of multiple realizability, and hyperintensionality in Author X. For reasons of space and coherence I cannot repeat my replies to each of these objections here. There is one objection to (CT-OP) that needs to be mentioned, however. Suppose that there are necessary beings, for instance pure sets. Let *a* be such a pure set. Then there are possible worlds in which *a* exists (has counterparts) and Socrates doesn't exist (has no counterpart), whereas every world in which Socrates exists (has counterparts) without *a* existing (having no counterpart) would have to be impossible. On the assumption that every possible world is closer to our world than any impossible world, it seems to follow that *a* is ontologically prior to Socrates. This seems to be the wrong result: pure sets are not foundational for concrete objects because the existence of the former is irrelevant to that of the latter. I think this problem can and should be solved by adding *relevance* constraints on the selection of counterpart relations. The thought is that, for **x** to be ontologically prior to **y**, the respects of similarity that are important and relevant for being possible counterparts of **x** have to be *fully* relevant to the possible existence of **y**, *i.e.* relevant to the selection of these respects of similarity that are important and relevant for being possible counterparts of **y**. Such a relevance constraint allows us to discard the conclusion that a pure set like *a* is ontologically prior to Socrates. For more details, see Author X.

(Where plural counterparthood is non-distributive.) (10') is not absurd. But the following counterpart-theoretic interpretation of (12), where CI is assumed, is absurd:

> (12') Some world v in which Blenda, Hansel, and John have component counterparts **x** but no component counterparts is closer to our world than any world u in which Blenda, Hansel, and John have component counterparts **y** but no component counterparts.

(12') does not follow from (10') and (11) by Leibniz's Law. So if we allow for variations of plural counterpart relations within a context, (CT-OP) allows us to block the Leibniz's Law argument against CI *cum* PP.

I claim that (10') is a correct interpretation of (10) that solves the objection to CI *cum* PP. But is (10') justified, given our Ockhamist assumptions? I think that we can justify it in terms of the difference between anchored and loose composite counterpart relations (cf. Section 2).

Suppose that component counterparts of Blenda, Hansel, and John are selected by assigning great importance to their individual origin. I assume that, according to the Ockhamist, no-composition is possible but mereological switching is *im*possible. Of course, it is not *logically* impossible but it is *metaphysically* impossible given the Ockhamist commitment to a mereological *essentialism*. Counterpart-theoretically, I interpret this as meaning that, for the Ockhamist, only A-composite counterparts of Blenda, Hansel, and John are metaphysically possible: they are similar to Blenda, Hansel, and John both with respect to their individual origin and with respect to how they are related to each other. By "metaphysical possibility" here I do not intend the Big-M notion of metaphysical possibility that is absolute and combinatorial but the relative and flexible notion of metaphysical possibility that follows from the counterpart-theoretic account of essentialist claims.[25] If mereological switching were metaphysically possible, among the composite counterparts of Blenda, Hansel, and John there would be things that are similar to them with respect to how they are related to each other but not with respect to their individual origin. But such L-composite counterparts of Blenda, Hansel, and John are *metaphysically impossible* (with a small m) since they are not A-composite counterparts of them. Now, in (10'), "composite counterparts of Blenda, Hansel, and John" is mean to include both possible and impossible composite counterparts of them. By definition, impossible counterparts are in impossible worlds, whereas possible ones are in possible worlds.[26] If so, the closeness ordering involved in (10') is

---

[25] It is the one according to which Socrates is *impossibly* a poached egg in contexts in which it is necessarily human.

[26] But again the relevant impossible worlds are not *logically* impossible. They are just made impossible by the assumption that mereological switching is not allowed.

vindicated. There is a possible world in which Blenda, Hansel, and John have component counterparts but no composite counterparts. This is so because the class of A-composite counterparts of Blenda, Hansel, and John is a proper subclass of the class of their component counterparts. Yet every world in which Blenda, Hansel, and John have composite counterparts but no component counterparts is impossible. This is so because any such world is a world in which mereological switching takes place. Therefore, given Ockhamist assumptions about the possibility of no-composition but impossibility of mereological switching, we can justify the closeness ordering of (10').

4. Conclusion

Ockhamist Composition as Identity is a version of the view that composition is identity. In this article, my goal was not to defend the view that composition is identity but to illustrate the virtues of advanced counterpart theoretic tools, namely a plural extension of counterpart theory and a counterpart theoretic account of ontological priority. I did so by focusing on problems that are specific to Ockhamist Composition as Identity: the Leibniz's Law argument against the claim that some things together are contingently a whole and the Leibniz's Law argument against the claim that the parts that together are a whole are ontological prior to the whole they compose. If further difficulties against the view that composition is identity prove conclusive,[27] I would not grieve.

There is one last issue that I want to mention. Jonathan Schaffer (2010) recently convinced philosophers that the debate between priority pluralism and priority monism — the view that the whole is ontologically prior to its parts — is a serious metaphysical debate. Yet there is a sense in which a counterpart-theoretic articulation of this debate deflates this debate. For, if one adopts the proposed counterpart-theoretic account of ontological priority, then whether it is true that a whole is prior to its parts" turns out to be context-sensitive: it is relative to how we contextually fix the indeterminacy of overall similarity, both between worlds and things in these worlds. However, nothing I said about the semantics for ontological priority claims implies that there is no objectively privileged way to fix the indeterminacy of the relevant relation of comparative overall similarity to our world. It is only on the *further* assumption that there is no such objectively privileged way to fix their indeterminacy that the disagreement between priority pluralists and monists becomes shallow. I did not make this assumption and prefer to remain neutral on this issue in absence of good evidence.

---

[27] See e.g. Wallace 2011 and Cortnoir and Baxter (2014).

What I want to stress is that the claim that the debate between priority monists and pluralists is shallow is not forced upon the counterpart theorist. She can coherently maintain that there is an objectively privileged way to fix counterparthood — *so to speak,* a more joint-carving one. If she does so, this doesn't undermine the value of the proposed counterpart-theoretic account of ontological priority. For if she does so, she can both maintain that the debate between priority pluralists and monists is a serious metaphysical debate and use counterpart theory to combine her view about the priority between wholes and parts with other beliefs she has — for instance, the belief that a whole *is* its parts together.

References

Adams, M. M. 1987. *William Ockham*. University of Notre Dame Press.

Arlig, Andrew. 2012. "Parts, Whole, and Identity." In *The Oxford Handbook of Medieval Philosophy*, edited by John Marenbon, 445–67. Oxford University Press.

Beretta, B. 1999. *Ad Aliquid. La Relation Chez Guillaume d'Occam*. Fribourg: Editions Universitaires Fribourg Suisse.

Butchvarov, P. 1966. *Resemblance and Identity: An Examination of The Problem of Universals*. Indiana University Press.

Correia, Fabrice. 2005. *Existential Dependence and Cognate Notions*. München: Philosophia.

Cotnoir, A. J. 2013. "Parts as Counterparts." *Thought: A Journal of Philosophy* 2 (3): 228–41.

Cortnoir, A. J., and D. Baxter. 2014. *Composition as Identity*. Oxford: Oxford University Press.

Cross, Richard. 1999. "Ockham on Part and Whole." *Vivarium* 37 (2): 143–67.

Divers, John. 2002. *Possible Worlds*. Routledge.

Fine, Kit. 1995. "Ontological Dependence." *Proceedings of the Aristotelian Society* 95: 269–90.

Henninger, M. 1989. *Relations. Medieval Theories 1250-1325*. Oxford: Clarendon Press.

Jansen, L., and S. Schulz. 2014. "Crisp Islands in Vague Seas: Cases of Determinate Parthood Relations in Biological Objects." In *Mereology and the Sciences*, edited by C. Calosi and P. Graziani, 163–88. Synthese Library.

Krakauer, Barak. 2012. "Counterpossibles." University of Massachusetts - Amherst.

Lewis, David K. 1983a. "Counterpart Theory and Quantified Modal Logic." In *Philosophical Papers: Volume I*, 26–39. New York: Oxford University Press.

———. 1983b. "Counterparts of Persons and Their Bodies." In *Philosophical Papers: Volume I*, 47–54. New York, Oxford: Oxford University Press.

———. 1986. *On the Plurality of Worlds*. Blackwell.

McKay, Thomas J. 2006. *Plural Predication*. Oxford University Press.

Merricks, Trenton. 1999. "Composition as Identity, Mereological Essentialism and Counterpart Theory." *Australasian Journal of Philosophy* 77: 192–95.

———. 2003. "The End of Counterpart Theory." *Journal of Philosophy* 100 (10): 521–49.

Normore, Calvin G. 2006. "Ockham's Metaphysics of Parts." *The Journal of Philosophy* 103 (12): 737–54.

Ockham, William of. 1974-1988. *Opera Philosophica*, 7 vols., Gedeon Gál *et al.* (eds.). St. Bonaventure (NY): The Franciscan Institute.

Panaccio, Claude. 2015. "Ockham's Ontology." In *Nominalism about Properties: New Essays*, edited by Ghislain Guigon and Gonzalo Rodríguez Pereyra, 63–78. Routledge.

Rodriguez-Pereyra, Gonzalo. 2002. *Resemblance Nominalism: A Solution to the Problem of Universals*. Oxford: Clarendon Press.

Roques, Magali. n.d. "Must the Relation of Substantial Composition Be a Mode? William of Ockham's Answers." In *Medieval Theories of Relation. Proceedings of the XXth Symposium on Medieval Logic and Semantics*, edited by R. Strobino. Cambridge: Cambridge University Press.

Rosen, Gideon. 2010. "Metaphysical Dependence: Grounding and Reduction." In *Modality: Metaphysics, Logic, and Epistemology*, edited by Bob Hale and David Hoffmann, 109–36. Oxford: Oxford University Press.

Schaffer, Jonathan. 2009. "On What Grounds What." *Metametaphysics*, 347–83.

———. 2010. "Monism: The Priority of the Whole." *Philosophical Review* 119 (1): 31–76.

Simons, Peter. 2006. "Real Wholes, Real Parts." *Journal of Philosophy* 103: 597–613.

Varzi, Achille C. 2000. "Mereological Commitments." *Dialectica* 54: 283–305.

Wallace, Megan. 2011. "Composition as Identity 1 and 2." *Philosophy Compass* 6 (11): 804–27.

Woodward, Richard. 2017. "Ersatz Counterparts." In *Oxford Studies in Metaphysics 10*, edited by Karen Bennett and Dean Zimmerman. Oxford University Press.