PARTS GROUND THE WHOLE AND ARE IDENTICAL TO IT
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Abstract: What is the relation between the parts taken together and the whole they compose? The recent literature appears to be dominated by two different answers to this question, which are normally thought of as being incompatible. According to the first, the parts taken together are *identical* to the whole they compose. According to the second, the whole is *grounded* in its parts. The aim of this paper is to make some theoretical room for the view according to which parts ground the whole they compose while being, at the same time, identical to it.
Keywords: mereology · grounding · composition as identity

1. Introduction

There's something about parthood: on the one hand, an intimate relation appears to hold between the parts taken together and the whole they compose (the whole goes where the parts go, it is located where they are, etc.);[1] on the other hand, mereology appears to be 'ontologically innocent' [Lewis 1991: 83], so that the whole is 'nothing over and above' the parts it fuses. There are two main approaches to mereology that promise to account for both the Intimacy of parthood and the Innocence of composition: 'composition as identity' ('CAI') and the 'grounding approach' ('GROUND'). According to CAI, the *Y*s that compose *x* are (collectively) identical to *x*.[2] 'It just *is* them. They just *are* it' [Lewis 1991: 83]. Taken in its *stronger* form (according to which the *Y*s are *numerically* identical to *x*),[3] CAI seems to have a clear and elegant explanation of both Innocence and Intimacy. A mereological sum is nothing above its parts because it is *identical* to them, and thus it is no addition in being with respect to them. At the same time, no relation is more intimate than identity, so it is no surprise that, for instance, the whole necessarily follows its parts and is located where they are. According to GROUND, mereological sums are *grounded* in their parts.[4] The whole exists *in virtue of* the existence of its parts. It *depends* on them. They *determine* its existence. The relation between the whole and its parts is thus intimate because the former 'inherits' its very existence from the latter, so to say, which is also why mereology is ontologically innocent. Inheriting its existence from the existence of the parts, the whole is a merely *derivative* entity, and thus, not a fundamental addition of being.[5]

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[1] On the intimacy of parthood see Sider [2007] and Cameron [2014].
[2] See Cotnoir [2014] and Wallace [2011a, 2011b] for an introduction to CAI.
[3] See Cotnoir [2014: §2] on the varieties of CAI.
[4] On the notion of metaphysical dependence or 'grounding' see, as a way of introduction: Correia and Schnieder [2012], Trogdon [2013], Bliss and Trogdon [2014], and Raven [2015].
[5] See Cameron [2014] for a recent defence of GROUND.

CAI and GROUND are commonly considered to be *incompatible* theories, at least if—as it appears to be highly plausible—grounding is taken to be *irreflexive*.[6] The argument for the incompatibility of CAI and GROUND has been recently made explicit by Bailey [2011], who presents it as follows:[7]

Argument A

(A1)	*x* is composed of the *Y*s	Ass.
(A2)	*x* is identical to the *Y*s	A1, CAI
(A3)	*x* is grounded in the *Y*s	A1, GROUND
(A4)	*x* is not identical to the *Y*s	A3, Irreflexivity of grounding
(A5)	*Contradiction!*	A2, A4

However, despite the simplicity and the apparent strength of argument A, the incompatibility of CAI and GROUND may strike one as an unwelcome result. It seems, for instance, that (at least in principle) one could underwrite CAI but still think that mereological fusions *aren't* fundamental entities and that the fundamental level of reality features only the atomic parts on which they metaphysically derive. By the same token, it also seems that one could embrace GROUND—and thus think that the whole exists in virtue of the existence of its parts—and together take the whole to be 'nothing over and above' the plurality of its parts in the (strict and literal) sense of being *identical* to them. At the same time, however, it appears fair to say that (*pace* Jenkins [2011]) many may find the rejection of Irreflexivity too 'heretical' [Raven 2013] and too high a price to pay for the compatibility of GROUND and CAI. Therefore, it appears at least plausible to suppose that, if it were possible to make GROUND compatible with CAI without endorsing any seemingly costly theoretical option, the resulting theory would not only be interesting on its own, but could also represent a novel and potentially interesting approach to mereology. For this reason, in what follows I will try to make some theoretical room for the possibility that parts *ground* wholes, while being, at the same time, *identical* to them.

2. On 'scattered' and 'collected' pluralities

Philosophers who claim—as we are assuming in this paper—that grounding is a relation,[8] disagree about the nature of its *relata*. Some authors, such as Schaffer [2009, 2010a, 2010b], adopt the more liberal view according to which it is possible for an entity, or a plurality of entities, to ground other entities.[9] This is precisely what happens in argument A where the grounding relation is supposed to hold between the

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[6] See Jenkins [2011] against the irreflexivity of grounding and Raven [2013] for some discussion.

[7] See also Bohn [2009: 100]: '[…] if $xx=f(xx)$ [i.e.: if the fusion of the *x*s is identical to the *x*s], then if either one grounds the other, something grounds itself, which contradicts that grounding is irreflexive'.

[8] As an introduction to the debate as to whether grounding is to be taken as a relation, see Trogdon [2013: §3].

[9] To be precise, Schaffer [2009, 2010a, 2010b] holds that the grounding relation 'can hold between entities of arbitrary category', and thus, also 'between actual concrete objects' [Schaffer 2010a: 36], as it happens in argument A.

whole and the plurality of its parts taken together. In order to counter the threat represented by argument A and defend a theory combining GROUND and CAI (which I will call 'G+CAI') I will instead follow those authors who, like Rosen [2010], endorse the following three claims (which I will label 'FACTS'):

(i)   grounding is a relation between facts;

(ii)   facts are just true propositions;

(iii) propositions are thought of as structured entities 'individuated by their worldly items and the manner of their combination' [Rosen 2010: 124].

For FACTS-theorists, it is wrong to say, for instance, that Socrates grounds {Socrates}, or that Socrates explains {Socrates}, or that {Socrates} depends on Socrates. What is correct to say is that *the fact that {Socrates} exists* depends on/is explained by/obtains in virtue of *the fact that Socrates exists.*[10] Once FACTS is assumed, argument A must be reformulated. Clearly, the crucial point is how to reformulate (A3), that is GROUND's characterising claim:

(A3) x is grounded in the Ys

Given FACTS, what is grounded cannot be x itself, but it is, most plausibly, *the fact that x exists*. However, we face a choice when it comes to expressing the idea that it is *the Ys* that ground x. If $y_1, y_2, …, y_n$ are the Ys, then, at least *prima facie*, (A3) could be expressed within FACTS in the two following ways (letting '$<p>$' stand for 'the proposition that p', '$[p]$' stands for 'the fact that p', where $<p>$ is true; '$[p] \leftarrow \Gamma$' stands for 'the fact that p is grounded in the plurality of facts Γ'):

(A3a) $[x$ exists$] \leftarrow [$the Ys exist$]$

(A3b) $[x$ exists$] \leftarrow [y_1$ exists$], [y_2$ exists$], …, [y_n$ exists$]$

(A3a) says that the fact that x exists is grounded in the *plural fact* that the Ys exist. Instead, (A3b) says that the fact that x exists is grounded in the *plurality of facts* $[y_1$ exists$], [y_2$ exists$], …, [y_n$ exists$]$. I will say that the Ys appear in (A3a) as a 'collected plurality', while they appear in (A3b) as a 'scattered plurality'. According to this terminology, (A3a) and (A3b) can be formulated as saying that, while in one case x's existence is grounded in the collected plurality of the Ys, in the other it is only grounded in their scattered plurality.

It is easy to see that, if (A3a) is used in the reformulation of argument A, the ensuing argument seems to be indeed valid (at least given our background assumptions):

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[10] Notice that, for simplicity's sake, in what follows I will sometimes use phrases like 'x is grounded in y' as shorthand for 'the fact that x exists is grounded in the fact that y exists'.

Argument B

(B1)	*x* is composed of the *Y*s	Ass.
(B2)	*x* is identical to the *Y*s	B1, CAI
(B3)	[*x* exists] ← [the *Y*s exist]	B1, GROUND-(A3a)
(B4)	[*x* exists] is not identical to [the *Y*s exist]	B3, Irreflexivity
(B5)	*x* is not identical to the *Y*s	B4, FACTS
(B6)	*Contradiction!*	B2, B5

(B3) follows from (B1) and (A3a), and (B4) follows from (B3) by the following principle of irreflexivity (formulated in terms of facts):

Irreflexivity: $\sim\exists\Gamma\exists f\,(f\leftarrow\Gamma\ \&\ f=\Gamma)$[11]

The crucial passage, however, is the one from (B4) to (B5), that is, from the difference between [*x* exists] and [the *Y*s exist] to the difference between *x* and the *Y*s. Recall that, for FACTS, facts are just true propositions, and propositions are structured entities individuated by their worldly items and the manner of their combination. Intuitively, [*x* exists] and [the *Y*s exist] both share the same 'existence'-component (however construed) and have the same form '[… + *existence*]'. Therefore, if there is a difference between them, it must depend on the difference between *x* and the *Y*s, which immediately contradicts CAI. Conversely, if *x* is identical to the *Y*s, as stated in (B2), it does indeed follow that the fact [*x* exists] is identical to the fact [the *Y*s exist], which, by Irreflexivity, entails the falsity of (A3a)/(B3).

(A3b) is a more promising candidate to express CAI given FACTS. As a matter of fact, in order to be valid, the corresponding reformulation of argument A appears to require a principle G+CAI-theorists aren't arguably committed to.

Argument C

(C1)	*x* is composed of the *Y*s	Ass.
(C2)	*x* is identical to the *Y*s	C1, CAI
(C3)	[*x* exists] ← [y_1 exists], [y_2 exists], …, [y_n exists]	C1, GROUND-(A3b)
(C4)	[*x* exists] is not identical to [y_1 exists], [y_2 exists], …, [y_n exists]	C3, Irreflexivity
(C5)	*x* is not identical to the *Y*s	C4,…???
(C6)	*Contradiction!*	C2, C5

The dubious passage here is the one inferring (C5) from (C4) which seems to presuppose the validity of the following principle:

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[11] This principle can be seen as following from the more general principle of irreflexivity of partial grounding

     Irreflexivity*: $\sim\exists\Gamma\exists f\,(f\,|\!\!\leftarrow\Gamma\ \&\ f=\Gamma)$

where partial grounding is defined, as it is customary, as follows:

     Partial grounding: $f\,|\!\!\leftarrow\Delta=_{df}$ for some Γ, $f\leftarrow\Gamma$ and $\Delta\subseteq\Gamma$

[Rosen 2010: 115; Fine 2012: 50].

Propositional Identity ('PI'): If x is identical to the Ys, then the proposition $<x$ exists$>$ is identical to the (plurality of) propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$

In fact, given PI, it follows from FACT

Factual Identity ('FI'): If x is identical to the Ys, then the fact $[x$ exists$]$ is identical to the (plurality of) facts $[y_1$ exists$]$, $[y_2$ exists$]$, …, $[y_n$ exists$]$

and from FI and (C4), (C5) can be validly derived. One might argue that PI can be derived from CAI and the following principle of propositional fusion:

Propositional Fusion ('PF'): If x is identical to the Ys, then the proposition $<x$ exists$>$ is the fusion of the propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$

In fact, if the plurality of propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ compose the proposition $<x$ exists$>$, then, given CAI, it does indeed follow that they are identical to $<x$ exists$>$. Nevertheless, I see no obvious reason why G+CAI-theorists should be committed to PF. If Universalism is true, then it is indeed the case that the plurality of propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ are guaranteed to compose something, to which, by CAI, they will be identical. However, even granting Universalism,[12] more appears to be needed in order to argue that such a mereological sum is a *proposition*, let alone the proposition *that x exists*. The burden of proof appears thus to be on the objector's shoulder in this case.

On the contrary, there does appear to be at least one seemingly plausible argument G+CAI-theorists might use *against* PF. Assuming that belief is a one-many relation between an individual and one or more propositions taken together, the argument goes as follows:[13]

The argument from Plural Belief
Suppose that someone, call her 'a', believes that a certain entity x exists, where x is the mereological fusion of $y_1, y_2, …, y_n$. If PF were true and the proposition that x exists were the fusion of the propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$, then it seems that one could plausibly infer that, as a believes the former ($<x$ exists$>$), she also believes the (collected) plurality of the latter (that is $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ *taken together*). She would believe *them*. However, the following principle about belief appears to be highly plausible (where '$<$' stands for the 'is one of' relation)

Plural Belief: One believes a (collected) plurality of propositions, only
if one believes each one of them

$$x\mathrm{B}ps \rightarrow \forall p((p < ps) \rightarrow x\mathrm{B}p)$$

Therefore, if PF were true, then not only would it follow that, for each one of the ys, a believes that y exists, but also, by generalization, that for every object x, individual y, and part z of x, if y believes that x exists, then y also believes that z exists. This, however, is clearly false: I believe that the chair I am sitting on exists, but there are surely many parts of it about which I have no belief whatsoever, let alone that they exist. *Therefore*, the proposition that x exists can*not* be the fusion of the propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ and PF is thus *false*. QED

Notice that this argument doesn't infer directly from the fact that a believes the fusion of the ps that, therefore, the ps are *distributively* believed by a. In fact, it appears to be invalid to infer from the fact that a fusion has a certain property or bears a certain relation to a certain other entity, that its parts distributively have that property or bear that relation to such entity. From the fact that this table is visible one cannot conclude that, therefore, each of the particles composing it are likewise visible. The first part of the argument from Plural Belief relies instead on the seemingly valid principle, according to which it is possible to infer from the fact that a fusion has a certain property, or bears a certain relation to a certain other entity, that its parts *collectively* have that property, or *collectively* bear that relation to that entity. For instance, it seems that from the fact that the table is visible one can correctly infer that the particles composing the table are *collectively* visible.[14] Therefore, once we assume that the proposition $<x$ exists$>$ is the mereological sum of the plurality of propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$, it seems we can safely infer from the fact that a believes $<x$ exists$>$, that, *therefore*, a believes $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ *taken together*.

The crucial passage of the argument from Plural Belief is the second one, that is the one from the 'collective belief' in $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ taken together, to the 'distributive belief' in each of the propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$. In general, it is invalid to infer from the fact that a certain plurality of entities *collectively* have a certain feature that each of them has such feature as well (the atoms composing the table are collectively visible, yet each of them is not). Notice, however, that the passage from the 'collective belief' in $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ taken together to the 'distributive belief' in each of the propositions $<y_1$ exists$>$, $<y_2$ exists$>$, …, $<y_n$ exists$>$ is *not* made on such invalid general grounds, but on the basis of the *specific* principle of Plural Belief, which appears to have at least the ring of intuitiveness to it. In other words, if *in general* a plurality of entities (like the atoms composing a table) can collectively

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[14] On the validity of this inference and the invalidity of the latter see, for instance, Wallace [2011a, 2011b].

display a feature (like visibility) that is not displayed by each one of them, in the *specific* case of belief it seems at least plausible to claim that one cannot collectively believe a plurality of propositions without believing each one of them. As a matter of fact, there seems to be a certain similarity between believing a *conjunction* of propositions and believing the *plurality* of conjuncts *taken together*. Therefore, there seems to be at least certain plausibility in thinking that, as a belief in a conjunction clearly entails belief in each of the conjuncts, so a 'collective belief' in a plurality of propositions entails 'distributive belief' in them.

I am not claiming that the argument from Plural Belief is a clear knock-down argument for the falsity of PF. What I am trying to claim is only that the passage from (C4) to (C5) doesn't appear to be obviously valid, which is at least suggested by the fact that the argument from Plural Belief *isn't* obviously *in*valid. If, as I hope to have shown in the last paragraphs, that is indeed the case, it follows that G+CAI isn't an obviously false theory, and that, therefore, G+CAI-theorists appear to have an at least *prima facie* plausible way to ward off the threat posed by argument C and to declare their theory to be a consistent theoretical option.

3. Parts ground the whole and are identical to it

G+CAI is the theory combining the following two claims, for every x and Ys such that the Ys compose x:

CAI: The Ys are identical to x
$Y\text{s} = x$

G: x's existence is grounded in the scattered plurality of the Ys
$[x \text{ exists}] \leftarrow [y_1 \text{ exists}], [y_2 \text{ exists}], \ldots, [y_n \text{ exists}]$

In addition, G+CAI also endorses the following principles:

CAI2: The fact that x exists and the fact that the Ys exist are the same fact
$[x \text{ exists}] = [\text{the } Y\text{s exist}]$

G2: The fact that the Ys exist isn't identical to the plurality of facts $[y_1$ exists], $[y_2$ exists], …, $[y_n$ exists]
$[\text{the } Y\text{s exist}] \neq [y_1 \text{ exists}], [y_2 \text{ exists}], \ldots, [y_n \text{ exists}]$

G3: The collected existence of the Ys is grounded in the scattered existence of the Ys
$[\text{the } Y\text{s exist}] \leftarrow [y_1 \text{ exists}], [y_2 \text{ exists}], \ldots, [y_n \text{ exists}]$

For G+CAI, from the fact that the Ys are identical to x, it only follows that the fact that x exists is identical to the fact that the Ys exist. As a matter of fact, both facts are constructed out of the same entity and 'existence' (however construed). Therefore, given that x and the Ys are identical, it follows that so are $[x$ exists] and $[\text{the } Y\text{s exist}]$. The crucial point, however, is that for G+CAI the fact that the Ys exist

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isn't identical to the plurality of facts $[y_1$ exists], $[y_2$ exists], …, $[y_n$ exists], but is *grounded* in them.[15] Therefore, since $[x$ exists] and [the *Y*s exist] are identical, it follows that, not only the fact that the *Y*s exist, but *also* the fact that *x* exists is grounded in the plurality of facts $[y_1$ exists], $[y_2$ exists], …, $[y_n$ exists], which is the way G+CAI expresses the thesis that wholes are grounded in their parts.

G+CAI represents a form of *compatibilism*. For G+CAI, mereological sums like *x* are, in fact, *both* identical to the plurality of its parts *and* grounded in them. What avoids the contradiction threatened by argument A is the fact that, while a whole is identical to the *collected* plurality of its parts (that is: the fact that *x* exists is identical to the fact that the *Y*s exist), it is grounded in their *scattered* plurality (that is: the fact that *x* exists is grounded in the plurality of facts $[y_1$ exists], $[y_2$ exists], …, $[y_n$ exists] taken together).[16]

4. Structured, yet uncluttered

G+CAI doesn't appear to be interesting only because it combines two approaches to mereology that have so far been thought of as being incompatible, but also because friends of both approaches seem to have at least some *prima facie* plausible reasons to find it appealing.

On the one hand, G+CAI can be taken by CAI friends as a simple and interesting way to inject some welcome metaphysical structure in their mereological universe without the need to embrace any 'heretical' [Raven 2013] stance on the grounding relation. Without endorsing G+CAI, in fact, it would seem to be difficult for CAI theorists to employ an irreflexive notion of grounding to claim that

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[15] *Objection*: According to FACTS, propositions are individuated by their worldly items and the manner of their composition. In the case of (the proposition) <the *Y*s exist> and (the plurality of propositions) <y_1 exists>, <y_2 exists>, …, <y_n exists> we have the same plurality of entities (the *Y*s) of which the same 'feature' (existence) is predicated. Therefore, contrary to what you claim, FACTS predicts <the *Y*s exist> to be identical to the plurality of propositions <y_1 exists>, <y_2 exists>, …, <y_n exists>, and therefore, [the *Y*s exist] to be identical to the plurality of facts $[y_1$ exists], $[y_2$ exists], …, $[y_n$ exists]. *Reply*: Even assuming that the same worldly items feature both in <the *Y*s exist> and in <y_1 exists>, <y_2 exists>, …, <y_n exists>, the *manner* of their composition is clearly different. In one case (<the *Y*s exist>) existence is *collectively* predicated of the *Y*s, in the other case (<y_1 exists>, <y_2 exists>, …, <y_n exists>) existence is predicated of each of the *Y*s *separately*. Compare: one thing is to say that the these atoms (composing the chair I am sitting on) are *collectively* visible, another thing is to say that *each* of them is visible. From the fact that we have the same worldly items in both cases (the atoms + visibility) and that in both cases the same plurality of entities is predicated of visibility it doesn't follow that <the atoms are (collectively) visible> is identical to the plurality of propositions <$atom_1$ is visible>, <$atom_2$ is visible>, …, <$atom_n$ is visible>.

[16] Notice that this is only the 'pluralist' version of G+CAI, that is the one that assumes that there is more than one fundamental entity and that no fundamental entity is the Schafferean [2010a] 'cosmos'. It is easy to see that, no matter how you 'tile' [Schaffer 2010a] reality (carving it up in a plurality of non-overlapping chunks completely covering the world), G+CAI allows you to take the 'tiles' as fundamental and say *both* that they are collectively identical to the *cosmos* and that each of them is identical to its parts taken together, *and* that they ground both the existence of the cosmos and the existence of their parts. G+CAI appears thus to be completely neutral about the question of how the world is metaphysically structured.

mereological fusions of fundamental entities *aren't* themselves fundamental and thereby reject a 'flat' metaphysics of mereology that some might find dubious.[17]

On the other hand, GROUND theorists can consider G+CAI as an elegant way to please the aesthetic sense of those who don't have a taste for cluttered *derivative* landscapes.[18] Consider, for instance, the fact [*Y*s exist]. Plausibly, GROUND theorists should take something[19] to be fundamental if and only if the fact that it exists is fundamental, and derivative if and only if the fact that it exists is derivative. Therefore, GROUND theorists who consider plural quantification over the *collected* plurality of the *Y*s to be 'ontologically innocent'[20] (and thus to pose no fundamental addition of being to their *scattered* plurality)[21] should plausibly take [the *Y*s exist] to be a *derivative* fact. In this case, however, if they also reject CAI, there are only two options that appear to have at least some initial plausibility for what concerns the relation between [the *Y*s exist], [*x* exists], and the plurality of facts [y_1 exists], [y_2 exists], …, [y_n exists]:

(a)   [the *Y*s exist] and [*x* exists] are both grounded in [y_1 exists], [y_2 exists], …, [y_n exists] but neither [the *Y*s exist] grounds [*x* exists] nor vice versa;

(b)   [*x* exists] is grounded in [the *Y*s exist] and, in turn, [the *Y*s exist] is grounded in [y_1 exists], [y_2 exists], …, [y_n exists].

However, if compared with G+CAI, both options (a) and (b) can be argued to unnecessarily clutter the derivative metaphysics of GROUND theorists. Option (a) appears to multiply facts beyond necessity, since the fact that *x* exists and the fact that the *Y*s exist are taken to be *two* different facts (and such that neither grounds the other). Option (b) appears to multiply 'layers of reality' beyond necessity, since, starting from the scattered plurality of the *Y*s, we have to climb up *two* steps of the metaphysical ladder of reality before encountering their mereological fusion. Therefore, there seems to be at least some *prima facie* plausible reason also for GROUND theorists to take G+CAI to be a potentially interesting theoretical option.

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[17] To say that mereological fusions exist and are as fundamental as their fundamental parts would seem to be a mereological instance of what Bennett calls 'flatworldism' [Bennett 2011: 28].

[18] Schaffer [2009, 2012] has defended the principle, according to which, 'what one ought to have is the strongest theory (generating the most derivative entities) on the simplest basis (from the fewest substances)' [Schaffer 2009: 361]. It should be clear, however, that even accepting Schaffer's 'bang for the buck' principle, there still appears to be a clear sense in which not even our *derivative* ontology should run afoul of Ockham's razor and our fundamental ontology shouldn't unnecessarily over-generate derivative entities.

[19] This quantifier must be thought of as ranging over both individuals and pluralities.

[20] See Boolos [1984] and Lewis [1991: 68-9]

[21] The idea that derivative objects are no additional ontological cost over the entities that ground them, and so that the proper ontological costs of a theory are given by what fundamental entities it counts is commonly endorsed by grounding theorists; see, for instance, Schaffer [2007: 89, 2009: 361, 2008, 2012: §2.3] and Cameron [2014]. It contrasts with other accounts of ontological commitment, such as, for instance, the 'entailment account(s)', according to which 'a theory T is ontologically committed to Ks if and only if T entails that Ks exist' [Bricker 2014: §2].

4. Conclusion

In this paper I have argued that there appears to be a clear and intuitive sense in which the ontological stance represented by CAI can happily live together with the metaphysical structure of reality postulated by GROUND. Interestingly enough, the results achieved in this paper appear to bear some interesting consequence also in the debate about the nature of the *relata* of the grounding relation.[22] If I am right, in fact, the 'relation between facts' approach seems to be arguably superior to the 'relation between things' one, at least in the sense that the former allows to draw distinctions (such as the one between collected and scattered pluralities) that appear to be unavailable to the latter.[23] I conclude, therefore, that G+CAI is a theory that deserves adequate attention in the future debates on both mereology and metaphysical dependence.[24]

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[22] As an introduction to this problem see Correia and Schnieder [2012], Trogdon [2013], Bliss and Trogdon [2014] and Raven [2015].

[23] An alternative approach has been suggested to me by an anonymous referee for this journal: one could both adopt a relation-between-*facts* stance on the grounding relation and define on its basis a notion of ontological dependence as a relation between *objects* (plausibly, along the following lines:

(OD) x ontologically depends on y/the Ys $=_{df}$ for some plurality of facts Γ about y/the Ys: [x exists]$\leftarrow \Gamma$;

see: Correia [2005, 2008], Schnieder [2006], and Correia and Schnieder [2012]). In this case, by adopting both G+CAI and (OD) one could have an irreflexive notion of grounding and a notion of ontological dependence that is not irreflexive (as allowing wholes to be both dependent on their parts and identical to them). Reasons of space force me to leave the discussion of this idea for another occasion.

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