Composites

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COMPOSITES

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Abstract

The four main chapters in this dissertation, while each largely self-standing, can be seen as together providing an extended defence of the view that classical mereology is analytically true. In chapter 1, I criticise Eli Hirsch's influential deflationary account of the ontological debate on composition, according to which universalists and nihilists talk past each other, and neither speak truly in ordinary language. In chapter 2, I respond to a recent argument from Louis deRosset against the standard assumption that analytic truths are somehow metaphysically insubstantial. In chapter 3, I criticise various attempts to reconcile mereological nihilism with the truth of everyday discourse. Finally, in chapter 4, I argue for the analyticity of classical mereology, and answer the main objections to this view of composition.

Acknowledgements

Introduction

The ultimate goal of this dissertation is to defend the view that classical mereology, while unobviously true, is analytic and metaphysically insubstantial. Thus I combine an anti-deflationary account of the *composition debate* with a deflationary account of *composition itself*. In the context of the recent metaontological debate, this combination may seem like a novelty. However, as I indicate at various points in the last two chapters, I take this to be roughly David Lewis's view of these matters. So given his tremendous and ongoing influence in contemporary metaphysics, my view shouldn't seem so very radical.

In chapter 1, I criticise Eli Hirsch's deflationary account of the ontological debate on composition. He argues that this is a merely verbal dispute between philosophers who fail to correctly express themselves in a common language. To establish the truth in plain English about composition, Hirsch contends, we need only listen to the assertions of ordinary speakers and interpret them charitably. In response, I argue that Hirsch's conclusions rest on a deficient understanding of the principle of charity. On a proper understanding of this principle, we can see that philosophical disagreement on this issue is not merely verbal. Further, it is no serious violation of charity to interpret ordinary assertions about composition as false, for the beliefs they express can be explained as reasonable mistakes.

In chapter 2, I respond to a recent argument from Louis deRosset against the metaphysical significance of the analytic/synthetic distinction. Contemporary metaphysicians tend to assume that if the existence of certain things analytically follows from sentences we already accept, then there is no further ontological commitment involved in explicitly affirming the existence of those things. More generally, it is plausible that whenever a sentence analytically entails another, the conjunction of those sentences requires nothing more of the world for its truth than the former sentence alone. DeRosset tries to produce counterexamples to these principles by means of linguistic stipulations. I aim to show where his arguments go wrong.

In chapter 3, I criticise non-error-theoretic versions of mereological nihilism. Self-styled mereological nihilists have proposed various semantic strategies for reconciling nihilism with the truth of everyday discourse. I argue that such approaches fail, mostly because they are self-defeating. In turn, I discuss disguised-plurals, contextualist, fictionalist,

and fundamentalist versions of conciliatory nihilism. I conclude that nihilists can't have it both ways. They should either abandon their conciliatory inclinations or abandon their nihilism.

In chapter 4, I argue for the analyticity of mereological universalism. I start by arguing for the analyticity of a weaker principle, according to which any things that are sufficiently arranged by ordinary standards compose something. I then proceed to argue for the analyticity of universalism, as follows. If the weaker principle is analytic, then any genuine restriction on composition would have to be an analytic restriction. However, our talk of composites is not conventionally restricted; and so on the simplest, hence correct way of extrapolating the rules of our language from conventional usage, the plural predicate 'compose something' has universal application. Therefore composition is analytically unrestricted. After replying to objections, I show that if we also accept some other, relatively uncontentious mereological principles as analytic, we can derive the further result that composition is analytically unique. Then classical mereology is analytic in full.

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Ontology in Plain English

1.1 Deflating the Composition Debate

According to common sense, some groups of nonoverlapping objects compose further objects, while others do not. Four table legs and a table top, suitably arranged, will compose a table; but there is nothing composed of Hillary Clinton's nose and the Eiffel Tower. This entails that composition is restricted. However, this commonsense view of composition is usually seen as highly problematic by serious ontologists. Most have concluded that there is no acceptable way to restrict composition in accordance with pretheoretical intuitions, while some have concluded that the very idea of composition is incoherent, or somehow metaphysically gratuitous.

Consequently, the two most popular theories of composition among serious ontologists (regarding physical objects, at least) are the rival extremes of *universalism* and *nihilism*. Universalists say that composition is unrestricted: for any things, there is something they compose. So, granted the existence of ordinary objects (i.e. those acceptable to common sense), universalism entails the further existence of many strange fusions, such as that of Hillary Clinton's nose and the Eiffel Tower. Nihilists, on the other hand, say that there are no composites: the only objects are simples, hence nothing is a part of anything else. On this view, there are no tables, no chairs, and no persons either (assuming that no persons are simples), though there may be simples arranged tablewise, simples arranged chairwise, and simples arranged personwise. It can be seen that neither of these views agree very well with common sense; but then, metaphysics wouldn't be so interesting if it didn't produce a surprising result from time to time.

However, according to Eli Hirsch, this supposedly substantive ontological debate is in fact a merely verbal dispute that poses no genuine threat to commonsense ontology. Hirsch contends that, despite their apparent disagreement, the beliefs expressed by the characteristic

claims of universalists, nihilists and ordinary non-philosophers are mutually consistent. Insofar as these claims reveal a disagreement between these groups, it is merely linguistic: they use words differently to describe the world. The truth about composition in plain English is what most competent speakers in the Anglosphere would affirm: the commonsense view described above. Meanwhile universalists and nihilists either speak truly in distinct philosophical jargons, or speak falsely in plain English by trivially misunderstanding their language. If everyone spoke plain English correctly, there would be no disagreement left. But because these philosophers fail to notice their lack of linguistic coordination, they misconstrue their disagreement as substantive. Hence the debate reaches deadlock, with the opposing sides vainly talking past each other. (Hirsch's deflationism bears a noted resemblance to that of Rudolf Carnap (1950), but is more directly influenced by the 'conceptual relativity' of Hilary Putnam (1987a, 1987b), itself influenced by Carnap. In any case, Hirsch is at pains to dissociate his 'robustly realist' view from the verificationist and antirealist tendencies of his predecessors (2011: xvi, 39-42, 68-85, 187-9, 220-1).)

For Hirsch, the composition debate is merely verbal roughly because each side speaks the truth in its own language. He acknowledges, however, that this attractively simple diagnosis may not be strictly accurate because of *semantic deference*. It has long been observed that speakers often fail to fully understand certain expressions, yet succeed in uttering them with their standard meanings by means of their membership of the relevant linguistic community (see Putnam, 1975; Burge, 1979). With this phenomenon in mind, Hirsch allows that, despite their linguistic deviations, universalists and nihilists may yet speak plain English by means of their membership of an Anglophone community dominated by non-philosophers. However, he contends that their debate is anyhow merely verbal because it meets the following condition: if each side were to form their own linguistic community while maintaining their actual relevant linguistic behaviour, then it would be correct to interpret them as speaking different languages; and thus interpreted their claims would be mutually consistent. Indeed, according to Hirsch's criterion (2011: 228-9), for a dispute to fulfil this counterfactual condition is both necessary and sufficient for it to be (merely) verbal.

However, we needn't talk of hypothetical linguistic communities to assess Hirsch's view of the composition debate. Let us rather set aside the complication of semantic deference. To streamline our discussion, I shall provisionally assume that these philosophers are sufficiently nondeferential that their utterances have the same meanings that they would have if each side were to form their own linguistic community while maintaining their actual

relevant linguistic behaviour. Never mind if this assumption is dubious. If Hirsch is to show that their dispute is merely verbal by his criterion, then he must show that on this assumption, universalists and nihilists should be interpreted as speaking different languages. (For on my assumption, each side's *would-be* language is identical to its *actual* language. So if universalists and nihilists would speak different languages in the relevant counterfactual scenario, as Hirsch's criterion requires, then they actually speak different languages.) But if, even on the stipulated assumption, they should all be interpreted as speaking the same language, then we should conclude that, by Hirsch's criterion, their dispute is *not* merely verbal. And once we have decided whether their dispute is merely verbal or not, we can discharge the assumption. (Caveat: even if their dispute is not merely verbal by Hirsch's criterion, it may yet arise from a difference in linguistic understanding. What I aim to show in this chapter is that the truth about composition is a nontrivial matter of genuine dispute, whether or not it is analytic.)

To support his interpretation of the composition debate, Hirsch appeals to the *principle of charity*: a principle widely accepted by philosophers of language to be an essential constraint on interpretation. And Hirsch understands the principle as follows: *ceteris paribus*, any subject should be interpreted so that she is ascribed whichever beliefs the interpreter deems most reasonable for her to hold. So, noting that the claims of universalists and nihilists are, by his lights, highly unreasonable when read as sentences of plain English, Hirsch concludes that (considerations of semantic deference aside) these claims should *not* be read as sentences of plain English. Rather the claims of universalists should be read as true sentences of one philosophical jargon – call it *Universalese* – and the claims of nihilists should be read as true sentences of another – call it *Nihilese*. (We might think of these jargons as versions of English; but languages are individuated here by their interpretations. So according to Hirsch, each of these jargons is distinct from *plain* English: the language of ordinary speakers.) Then each seemingly bizarre claim asserted by either side in this debate can be translated as an uncontroversially true sentence of plain English (see section 1.2). Hence the dispute is merely verbal: unbeknown to the participants, their ontological claims are mutually consistent. Perhaps there is a genuine disagreement about which side speaks truly in plain English; but in this respect universalists and nihilists are both mistaken. (At least, those who take themselves to speak plain English are thus mistaken. Admittedly, some ontologists now state their aim as speaking truly not in plain English, but rather in whichever reinterpreted version of English is best for ontology. But Hirsch maintains that plain English

is no worse for ontology than any other language – see again section 1.2. In any case, I shall mostly ignore these self-declared linguistic deviants.)

Hirsch appeals to the principle of charity again to argue that the commonsense view of composition is trivially true in plain English, and thus support his claim that it would be highly unreasonable for philosophers to contradict this view. He notes that while ordinary English speakers usually refuse to acknowledge strange fusions such as that of Hillary Clinton's nose and the Eiffel Tower, they usually do not hesitate to acknowledge ordinary composites such as tables and chairs. Hirsch thus infers that it would be a severe violation of charity to interpret ordinary English speakers as asserting falsehoods either when they deny the existence of strange fusions or when they affirm the existence of ordinary composites; for, he argues, that would be to ascribe many unreasonable and inexplicable mistakes to these speakers (see section 1.4). Therefore, he concludes, on any plausible interpretation, both their denials of the existence of strange fusions and their affirmations of the existence of ordinary composites are true. Hence the commonsense view of composition is a trivial conceptual truth of plain English – obvious to all competent speakers of that language – whereas, interpreted as sentences of plain English, the claims of universalism and nihilism are trivially false. And any philosophical principles inconsistent with the commonsense view must also be false in plain English.

1.2   Quantifier Variance

Hirsch maintains that Universalese, Nihilese and plain English have equal expressive power: on a suitable individuation of contents, anything that can be expressed in one of these languages can be expressed in either of the others. So neither universalists nor nihilists have any expressive advantage over their opponents; nor do they have any expressive advantage over ordinary speakers. Each group has an equally good way of speaking for ontological purposes. For Hirsch the question of what is true in plain English is most significant, but only because that is the dominant language of his society. Objectively, he claims, these languages are on a par.

However, some may doubt that these languages, as characterised by Hirsch, have equal expressive power. For speakers of Universalese are permitted to quantify over strange fusions, whereas speakers of plain English and Nihilese are not. And speakers of

Universalese and plain English are permitted to quantify over ordinary composites, whereas speakers of Nihilese are not.

Hirsch's solution to this problem is to embrace *quantifier variance*. According to this doctrine (taken from Putnam 1987a, 1987b), the basic quantifier meanings can vary from language to language. Hence there are many concepts of existence, none of which is uniquely privileged. For Hirsch, then, the expressive power of a language is not to be judged by how many objects it allows us to speak of, for the correct way to count 'objects' will vary from language to language. Rather the expressive power of a language is to be judged by the set of unstructured propositions expressible in that language, where each unstructured proposition is a set of possible worlds. And on this score, Universalese, Nihilese and plain English do equally well: the set of unstructured propositions expressible in each of these languages is identical.

The basic idea here is that any sentence of the form 'There is an *F*' (where an *F* is a composite of a certain kind) expresses the same metaphysical possibility as a corresponding sentence roughly of the form 'There are simples arranged *F*-wise'. So the former can be translated into the latter (and vice versa) without loss of objective content. Hence on Hirsch's account, quantification over composites is a dispensable shorthand: it adds nothing to our ability to objectively describe the world. For that purpose it doesn't matter if our language places no restriction on this shorthand (as with Universalese), restricts use of the shorthand (as with plain English), or forbids the shorthand altogether (as with Nihilese). For any expressible metaphysical possibility can be expressed by quantifying over simples alone.

Thus Hirsch commits himself to the metaphysical impossibility of composites not composed of simples. For if this were a genuine possibility, it would be inexpressible in Nihilese, and there would then be a genuine expressive disparity between these languages. For this reason, Hirsch restricts his deflationary interpretation of the composition debate to cases where it is common ground that such 'gunky' composites are impossible (2011: 145, n. 2, 164, n. 29, 197, n. 1, 201, n. 7).

We are now in a position to see roughly how Hirsch thinks the claims of universalists and nihilists should be translated. (Here I follow the pattern of Hirsch's examples; he does not provide a precise translation scheme.) On Hirsch's account, if a speaker of Universalese or Nihilese wants to translate one of her ontological claims into plain English, she needs to find a sentence of plain English that is true at the same possible worlds as her original sentence. To do this, a Universalese speaker should appropriately limit her talk of composites – so for instance, instead of saying 'There is something composed of Hillary Clinton's nose

and the Eiffel Tower', she might say 'Hillary Clinton's nose and the Eiffel Tower both exist'. And a Nihilese speaker should appropriately qualify her generalisations and negative existentials – so for instance, instead of saying 'There are no tables', she might say 'There are no noncomposite tables'. In this way, we are told, the seemingly bizarre claims of universalists and nihilists can be translated as commonsense truths of plain English.

Now, quantifier variance is certainly a controversial thesis. Even if we accept that the languages posited by Hirsch are possible (not merely specifiable, but also *usable*), we may doubt that they are equally suitable for ontology. Some may regard these languages as expressively unequal, perhaps because they think that composites could be gunky, or because they reject Hirsch's coarse-grained measure of expressive power (see Hawthorne, 2006, 2009; McGrath, 2008; Hawthorne and Uzquiano, 2011: 78-80). And some may believe in a privileged concept of existence that reflects the objective structure of reality, and hence regard Hirsch's languages as normatively unequal, regardless of how they compare in expressive power (see Sider, 2004, 2009, 2011, 2013a; Dorr, 2005). Set these objections aside. What I aim to show is that even if we accept quantifier variance, we should not accept Hirsch's deflationary conclusions. For regardless of whether quantifier variance is true, Hirsch's argument from charity establishes neither that the composition debate is merely verbal (see section 1.3), nor that the commonsense view of composition is trivially true in plain English (see section 1.4).

Thus I assume that we need not reject quantifier variance to reject a deflationary view of the composition debate. Perhaps the mere truth of quantifier variance would render the debate 'merely verbal' in *some* sense; but although Hirsch (e.g. 2011: 232-3) occasionally hedges on how this phrase should be understood, I take his claim to be stronger than that. Indeed, for him, it cannot follow from quantifier variance alone that the composition debate is merely verbal, for he regards the debate as potentially nonverbal before it reaches deadlock (that is, when some participants can still be persuaded to give up their ontological claims; see his 2011: 159-60, 230-1), but quantifier variance, if true, is necessarily true. Moreover, Hirsch explicitly distinguishes quantifier variance from his verdicts of verbalness and triviality (2011: xii-xiii).

(Indeed the converse entailment, from the verbalness of the debate to quantifier variance, also fails. Suppose some concept of existence is objectively and uniquely best. Then quantifier variance is false. Still the composition debate could be merely verbal by Hirsch's criterion if the relevant languages are available; for his criterion does not require that each side's would-be language is ontologically optimal, or even that the languages involved are on

a par. Nonetheless Hirsch seems to regard parity between the languages as required for a fully deflationary outcome, otherwise the side with the best language might in some sense 'win' the debate, even if it is merely verbal (cf. McGrath, 2008: 498-9).)

1.3 Debating in Plain English

I shall now argue that, however intractable their dispute may seem, universalists and nihilists should be interpreted as speaking plain English, even assuming that considerations of semantic deference are insufficient for this result. So by Hirsch's criterion their dispute is *not* merely verbal. For on a proper understanding of the principle of charity – and on any plausible view of how utterance meanings are determined – Hirsch faces a dilemma that severely undermines the plausibility of his interpretation. (A dilemma, I might add, that has so far been overlooked in the many published critiques of his deflationary project.)

Hirsch, recall, understands the principle of charity as follows: *ceteris paribus*, any subject should be interpreted so that she is ascribed whichever beliefs the interpreter deems most reasonable for her to hold. I have no disagreement with this constraint, so described, as *one* element of charity. However, there is a further element of charity that Hirsch (as far as I can see) entirely ignores: *ceteris paribus*, any subject should be interpreted so that she is ascribed whichever *desires* the interpreter deems most reasonable for her to hold.

So, *ceteris paribus*, we should interpret each subject so that we ascribe to her intrinsic desires either that we hold ourselves or that explicably differ from our own intrinsic desires. And, *ceteris paribus*, we should ascribe to her whichever instrumental desires seem most reasonable in the light of the intrinsic desires and beliefs we ascribe to her.

I claim no originality for this insight. It is stated (with varying degrees of precision) in seminal writings on the interpretation of language and thought. In one of his earlier formulations of the principle of charity, Donald Davidson writes:

> [W]e could not begin to decode a man's sayings if we could not make out his attitudes towards his sentences, such as holding, wishing, or wanting them to be true. [...] In our need to make him make sense, we will try for a theory that finds him consistent, a believer of truths, and a lover of the good (all by our own lights, it goes without saying). (1970: 222)

And in a more refined formulation of the principle, David Lewis says that the subject of interpretation

> should be represented as believing what he ought to believe, and desiring what he ought to desire. [...] In our opinion, he ought to believe what *we* believe, or perhaps what we would have believed in his place; and he ought to desire what we desire, or perhaps what we would have desired in his place. (1974: 336)

(Thus Lewis allows that reasonable mistakes may be charitably ascribed to subjects. Davidson also allows for ascriptions of 'intelligible error' (1973: 323).)

On reflection, it should be clear that the desire-based side of charity is essential for linguistic interpretation. And not only is it essential for the interpretation of expressions of desire; it is essential for the interpretation of any utterance. For it is impossible to perform a speech act of any kind unless one has the appropriate intentions. So merely by classifying an utterance as a speech act of a certain kind, we thereby implicitly ascribe certain intentions to the speaker, and thereby implicitly ascribe certain desires to her. For any intention to do something involves (I assume) a desire to do it. So from the very beginning of interpretation we ascribe desires; hence we need constraints on desire ascription to guide our interpretations.

To see how desire-based charity guides interpretation, consider a case where we interpret an utterance radically, without prior knowledge of which language is being spoken (cf. Davidson, 1970, 1973; Lewis 1974). If we decide that this utterance is most plausibly an assertion, then before we can estimate its content, we must take a stance on whether the speaker intends to speak sincerely. And if we take her to speak sincerely, then before we can estimate *which* belief she is expressing, we must take a stance on whether she intends to speak informatively. *Ceteris paribus*, we charitably expect assertions to be sincere. And, *ceteris paribus*, we charitably expect sincere assertions to be informative, or at least thought informative by the speaker. For it is usually more worthwhile to speak informatively than to state the obvious.[1]

Now consider again the debate between universalists and nihilists, and Hirsch's interpretation thereof. On Hirsch's interpretation, when a universalist says 'There is something composed of Hillary Clinton's nose and the Eiffel Tower', she is merely claiming, in Universalese, that Hillary Clinton's nose and the Eiffel Tower both exist. And when a

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[1] There is an evident connection here with Paul Grice's conversational maxims (see his 1975).

nihilist says 'There are no tables', she is merely claiming, in Nihilese, that there are no noncomposite tables. Hirsch therefore faces a dilemma. On his interpretation, universalists and nihilists speak uninformatively – *unintentionally* or *intentionally*.

On the first horn of the dilemma, these philosophers are depicted as incompetent speakers. For they know that they would speak uninformatively if they were to state platitudes such as 'Hillary Clinton's nose and the Eiffel Tower both exist' and 'There are no noncomposite tables'. And by hypothesis, they do not intend to speak uninformatively. So when a universalist says 'There is something composed of Hillary Clinton's nose and the Eiffel Tower', she intends to make a claim other than the claim she would make by saying 'Hillary Clinton's nose and the Eiffel Tower both exist'. And when a nihilist says 'There are no tables', she intends to make a claim other than the claim she would make by saying 'There are no noncomposite tables'. But then on Hirsch's interpretation, both philosophers fail to make their intended claims. So they speak incompetently.

Not only is this result implausible given what we know about the linguistic competences of these philosophers. The interpretation undermines itself. For if we take universalists and nihilists to be so incompetent in their speech, we no longer have sufficient grounds to assign any specific meanings to their utterances. We may ask: if the communicative intentions of these philosophers do not determine what their utterances mean, then what does? There seems to be no plausible answer to this question, for plausibly, speakers' intentions are *constitutive* of utterance meanings in general. Admittedly, many utterances partially derive their full meanings from the intentions of other speakers, through semantic deference. But it would be hopelessly circular for Hirsch to appeal to semantic deference here (even if we allow this move), for that would require the assumption that others already speak according to his interpretation. So if Hirsch concedes that universalists and nihilists do not intend to speak uninformatively, then it seems he has no plausible way to explain how their utterances could *acquire* the meanings they have on his interpretation. He is left with nothing in these philosophers' psychologies or social circumstances that could determine the alleged meanings of their utterances.

On the second horn of the dilemma, these philosophers are ascribed highly unreasonable intentions. For in the relevant contexts of utterance, universalists and nihilists have no good reason to make the banal claims that Hirsch ascribes to them. So if he decides that they make these claims intentionally, then he violates charity to an extent that thoroughly undermines the plausibility of his interpretation. (Imagine how unreasonable it would be for a philosopher discussing the issue of composition to say 'It may seem counterintuitive, but

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Hillary Clinton's nose and the Eiffel Tower both exist', or 'It may seem counterintuitive, but there are no noncomposite tables'. Yet on Hirsch's interpretation, it is typical for universalists and nihilists to say such things in their respective languages.)

Compare the interpretation according to which both universalists and nihilists speak plain English. On this interpretation, when these philosophers utter sentences such as 'There is something composed of Hillary Clinton's nose and the Eiffel Tower' and 'There are no tables', we can say that they intend to make philosophically interesting claims and succeed in doing so. Thus we can charitably explain their utterances' meanings as derived from reasonable intentions. In contrast, it seems that Hirsch can only account for the meanings he assigns to their utterances by uncharitably ascribing highly unreasonable intentions to these philosophers.

The only remaining reason Hirsch has for favouring his interpretation is that it allows him to judge that both universalists and nihilists speak truly by his lights; whereas on my interpretation at least one side is mistaken, as their claims are mutually inconsistent. Moreover, on my interpretation *both* sides are mistaken by Hirsch's lights, as both contradict the commonsense view of composition. Nonetheless even commonsense ontologists can adopt my interpretation without fear of violating charity to any serious extent. For as Hirsch acknowledges, there is no serious violation of charity in ascribing reasonable mistakes to speakers. And if either universalists or nihilists are mistaken in their ontological claims, they are at least reasonably mistaken. For both sides' claims are derived from *prima facie* plausible (albeit disputed) philosophical principles (cf. McGrath, 2008: 494-5).

Hirsch suggests that these philosophers understand their disputed principles as sentences of the jargons he attributes to them, resulting in further verbal disputes over the truth of the principles (2011: 160-1, 204). But here Hirsch gets things back to front. He suggests that nihilists, for instance, accept their principles because they understand them as true sentences of Nihilese. But if a philosopher's position in the composition debate is *caused* by her acceptance of certain principles, then (assuming no backward causation is involved) she must accept those principles *before* she endorses that position. And before they endorse any position in the composition debate, these philosophers – as I suppose Hirsch would agree – are competent speakers of plain English. Therefore it is overwhelmingly plausible that universalists and nihilists initially understand and accept their principles as sentences of plain English. And from these principles, so interpreted, they derive their peculiar ontological claims.

On Hirsch's account, budding universalists and nihilists start as competent speakers of plain English, before each 'somehow confuse[s] himself into speaking a new language without realizing it' (2011: 81). But Hirsch gives no specific account of how this change happens. Indeed there seems to be no plausible account available. For when an Anglophone philosopher first takes a position in the composition debate, she endorses the theory she finds most plausible in plain English. So for instance, if shortly after endorsing universalism she declares 'There is something composed of Hillary Clinton's nose and the Eiffel Tower', then we should infer that this is because she believes what this sentence says in plain English and intends to report that information. And if she continues to assert this sentence, then unless we have evidence to the contrary, we should assume that she does so because she retains this belief and continues to express it in plain English. And likewise, *mutatis mutandis*, for the budding nihilist. There is simply no adequate reason to think that these philosophers change languages at any stage, regardless of how stubbornly they assert their claims, and regardless of whether they defer to the broader community in their manner of quantification. Even if they *could* unwittingly adopt the languages that Hirsch attributes to them, given the foregoing considerations it should be clear that in fact they do not change languages, irrespective of semantic deference. Rather they continue to contradict each other in plain English. So by Hirsch's criterion their dispute is not merely verbal.

1.4   Common Sense and Reasonable Mistakes

On a suitably sophisticated understanding of the principle of charity, we also have an answer to Hirsch's claim that the commonsense view of composition is trivially true in plain English.

Recall Hirsch's argument for this conclusion. It would be a severe violation of charity to interpret ordinary English speakers as asserting falsehoods either when they deny the existence of strange fusions or when they affirm the existence of ordinary composites. Therefore, on any plausible interpretation, these denials and affirmations are true. Hence the commonsense view of composition is trivially true in plain English, and any theory that explicitly contradicts this view is trivially false.

Hirsch appeals to three elements of charity in support of this argument: *charity to retraction*, *charity to understanding*, and *charity to perception*. Let us consider these in turn.

Hirsch summarises charity to retraction as follows:

> If the community retracts a set of sentences that were previously accepted, then considerations of charity must favor an interpretation which makes the sentences false. This is because there must surely be the presumption that people are more likely to get things right at the end of the day, after being able to consider more arguments. (2011: 180)

It is odd that Hirsch appeals here to this element of charity. For it seems to suggest an argument *against* commonsense ontology. Both universalists and nihilists can reply to Hirsch thus: 'Of course, the assertions of most non-philosophers indicate that they implicitly believe that composition is moderately restricted. But they haven't thought about it hard enough. If only they engaged in enough philosophical reflection on this issue, like we have, most ordinary English speakers would *deny* that composition is moderately restricted, and so retract many of their previous assertions. So charity to retraction gives us reason to reject the commonsense view of composition.'

Apparently intending to preempt such arguments, Hirsch insists that most English speakers are undisposed to abandon their commonsense ontological views on 'the existence and identity of physical objects' on reflection – at least, not without ambivalence (2011: 182). But this is simply an assumption in favour of his argument. Further, it is an empirical claim in support of which he offers no evidence. In fact there is significant evidence against this claim, as follows. Most of the English speakers who have taken the issue of composition seriously, and engaged in prolonged reflection on the relevant arguments – beyond the undergraduate level, say – have come to reject the commonsense view of composition, and thus reject many sentences regarding composites that they would previously have accepted. Hence the popularity of universalism and nihilism among serious ontologists. And as I have already argued, these philosophers remain competent speakers of plain English, despite their departures from common sense. This evidence is not decisive, admittedly, but it is the only evidence we have for what English speakers are disposed to say about composition on reflection. (Perhaps serious ontologists are unrepresentatively eccentric; but short of forcing the uninterested to join them in their inquiries, there seems to be little hope of obtaining further evidence on this matter.) And although this evidence (due to the lack of consensus on this issue among serious ontologists) perhaps suggests that English speakers vary significantly with respect to which sentences regarding composites they are disposed to accept on reflection – and so does not strongly support any *particular* revisionary theory of composition – it does, I think, at least throw doubt on the commonsense view. For serious ontologists mostly agree that the commonsense view is false. So I say, *pace* Hirsch, that

charity to retraction is a consideration in favour of the truth, in plain English, of some revisionary theory of composition.

(Caveat. In the passage cited above, Hirsch directly defends a commonsense 'Lockean' view of persistence, and only indirectly defends the commonsense view of composition, though he makes it clear that he has both issues in mind (2011: 184). His argument here might be stronger with respect to the former, if fewer ontologists depart from common sense in the case of persistence than in the case of composition.)

Secondly, Hirsch appeals to charity to understanding:

> This is the presumption that members of the linguistic community generally understand what they are talking about to the extent at least that they do not make a priori (conceptual) mistakes about seemingly uncomplicated judgments. (2011: 182)

Hirsch maintains that anyone who denies that the commonsense view of composition is true in plain English severely violates this principle by ascribing to ordinary speakers many *a priori* mistakes about the 'seemingly uncomplicated' matter of when composition occurs.

However, as stated, this principle is ambiguous. It can be read in (at least) two ways. First: interpreters should presume that speakers do not usually make *a priori* mistakes about matters that seem uncomplicated *to the interpreter*. Secondly: interpreters should presume that speakers do not usually make *a priori* mistakes about matters that seem uncomplicated *to the speaker*.[2]

On the first reading I grant that this principle is an essential element of charity. For the essence of charity is the following instruction: when interpreting, try to make the subject seem reasonable *to you*. (This invites bias, certainly. But consider Lewis's rhetorical question: 'Better we should go by an opinion we *don't* hold?' (1974: 336).) If a speaker is suitably similar to her interpreter, then making the speaker seem reasonable in her beliefs simply involves ascribing to her only beliefs shared by her interpreter. But if, as often happens, the interpreter has relevant evidence or intellectual training that the speaker lacks, then, *ceteris paribus*, she should ascribe to the speaker the (possibly mistaken) beliefs that she thinks she would (or should) have had in the speaker's place – that is, without the evidence and training lacked by the speaker (see Lewis, 1974: 336-7). So it is often most charitable to ascribe reasonable mistakes to speakers. And whether or not a mistake is reasonable is of course for the interpreter to judge.

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[2] For a different but similarly ambiguous formulation of this principle, see Hirsch, 2011: 149.

Trivial *a priori* mistakes are, I suppose, always unreasonable; but nontrivial *a priori* mistakes may be reasonable, especially when made by those who lack appropriate intellectual training and have not considered the relevant arguments. For instance it seems reasonable for non-mathematicians, unfamiliar with Cantor's diagonal argument, to believe that there is only one size of infinity. Similarly it seems reasonable for those unfamiliar with non-Euclidean geometry to think it impossible for a straight line to wrap back on itself. Both of these commonsense beliefs are *a priori* mistakes, but reasonable nonetheless. Clued-up mathematicians, presented with laypersons who hold these beliefs, will typically think: 'They are mistaken, but I would have thought the same in their place.' Indeed it would seem unreasonable for laypersons to abandon either of these commonsense beliefs without first considering the relevant arguments.

And what goes for mathematics goes for philosophy. Trivial *a priori* mistakes are always unreasonable, but nontrivial *a priori* mistakes are sometimes reasonable. And while universalists and nihilists may take the question of composition to be *a priori*, they do not regard it as trivial. Rather they think that any convincing answer must be supported by argument from independently plausible premises. So for these philosophers, it is perfectly understandable that non-philosophers make mistakes in their judgements of when composition occurs (cf. McGrath, 2008: 508; Balcerak Jackson, 2013: 422, 427-9; Howard-Snyder, MS). When presented with non-philosophers who adhere to the commonsense view of composition, universalists and nihilists will typically think: 'They are mistaken, but I would have thought the same in their place.' So if these philosophers interpret ordinary speakers as making *a priori* mistakes, either when they deny the existence of strange fusions or when they affirm the existence of ordinary composites, they do not thereby violate charity to understanding – at least, not on my first reading of that principle.

Now consider again my second reading of Hirsch's formulation of charity to understanding: interpreters should presume that speakers do not usually make *a priori* mistakes about matters that seem uncomplicated *to the speaker*. If this were the correct reading of the principle, then universalists and nihilists would plausibly be guilty of seriously violating it; for it seems that most English speakers think it obvious that composition occurs in some but not all cases. (At least, it seems that most are disposed to regard this claim as obviously true, prior to reflection.) But if charity to understanding is to be a genuine constraint on interpretation, then this is clearly *not* the correct reading of that principle. For when a speaker is reasonably mistaken about a nontrivial *a priori* issue, often her mistake is reasonable precisely *because* the issue seems uncomplicated to her.

Non-mathematicians are reasonable to believe that there is only one size of infinity, because this idea is intuitively compelling and they have no apparent reason to believe otherwise. Similarly non-philosophers are reasonable to believe that there is a moderate restriction on composition, because this idea is intuitively compelling and they have no apparent reason to believe otherwise. So both universalists and nihilists can explain the *a priori* mistakes they ascribe to non-philosophers as reasonable mistakes resulting from an understandable failure to notice the complexity of the issue of composition.

So in his discussion of charity to understanding, I think Hirsch commits a fallacy of equivocation. On my first reading the principle is a genuine constraint on interpretation; whereas on my second reading it is clearly not. But only on the second reading would the principle support Hirsch's argument; for only on the second reading is the principle violated by those who deny that the commonsense view of composition is true in plain English.

(To be charitable to Hirsch, his equivocation is understandable. For he of course agrees with ordinary English speakers that the issue of composition is uncomplicated. So by his lights, to interpret them as mistaken about this issue would be to violate charity to understanding on *both* readings.)

Finally, Hirsch appeals to charity to perception:

[This is] the presumption that any language contains sentences used to make perceptual reports, and that these reports are generally accurate (to a fair degree of approximation). [... T]here must be a strong presumption against attributing to the community massive perceptual errors about the existence and identity of the objects typically encountered, especially errors that are alleged to be of an a priori conceptual nature. (2011: 185)

This principle has some plausibility as an element of charity. However, I think that Hirsch's formulation of the principle should be refined. I would rather say that, *ceteris paribus*, we should not ascribe to speakers *inexplicable* perceptual errors about the objects they typically encounter. For we may plausibly ascribe to a speaker perceptual errors about the objects she encounters if we have reason to believe that her perceptual faculties are somehow impaired (cf. Balcerak Jackson, 2013: 425). And in principle we may plausibly ascribe to a community a widespread tendency to routinely make such errors, provided that we have a convincing explanation for this. (Imagine, for instance, a community universally afflicted with the severe visual agnosia displayed by the 'man who mistook his wife for a hat' described by Oliver Sacks (1985: ch. 1).)

Hirsch's complaint here (see also his 2011: 113-14) is that if universalists and nihilists claim their theories to be true in plain English, then according to universalists, ordinary speakers persistently and inexplicably fail to notice the many strange fusions that surround them; whereas according to nihilists, ordinary speakers persistently and inexplicably hallucinate composites. Thus Hirsch alleges that these philosophers severely violate charity to perception by ascribing many inexplicable perceptual errors to ordinary speakers.

In response, some universalists and nihilists may deny that they ascribe perceptual errors to ordinary speakers. Some universalists may claim that when ordinary speakers disregard strange fusions in their perceptual reports, they restrict their quantifiers. And some nihilists may claim that ordinary speakers, in their apparent references to composites, somehow surreptitiously refer only to appropriately arranged simples. However, Hirsch argues that such responses are unconvincing (2011: 104-7, 183). For when explicitly challenged, ordinary speakers will typically refuse to acknowledge the strange fusions that allegedly exist in plain view. And they will typically insist that their talk of ordinary composites is strict and literal.

However, even if universalists and nihilists must ascribe widespread perceptual errors to ordinary speakers, it seems to me that they can explain these errors as reasonable mistakes, and so avoid any serious violation of charity to perception.

Universalists may note that non-philosophers have no practical interest in thinking or talking about strange fusions. Indeed this is the sense in which these fusions are *strange*: they are simply not worth thinking or talking about outside philosophy, otherwise non-philosophers would be willing to quantify over them (see Lewis, 1986a: 213; Hudson, 2001: 107-12; Thomasson, 2007: 183-5; Howard-Snyder, MS). So in a practical sense, ordinary speakers are *correct* to disregard strange fusions. For given their ordinary interests, they are better off ignoring them; for in doing so they avoid wasting valuable cognitive resources on objects that, taken as wholes, have no significance for them. (Of course, some *parts* of strange fusions have significance for ordinary speakers. But ordinarily a strange fusion has no significance beyond that of its proper parts considered individually; so even if it has noteworthy parts, the whole may be reasonably ignored.) Thus universalists can explain ordinary speakers' failure to notice strange fusions as a reasonable mistake. Epistemically it is a mistake; but there is a good practical reason for making it. And the practical reason explains the epistemic mistake, even though the mistake is unintentional. And practically, it is no mistake at all for non-philosophers to disregard strange fusions.

Nihilists may note the vastly improved efficiency of thought and communication that is achieved by thinking and talking of significantly arranged simples *as if* they composed further objects (see Rosen and Dorr, 2002: 169-71; Dorr, 2005: 255; Sider, 2013a: 248-50; Howard-Snyder, MS). It is much simpler and easier to think and say, for instance, 'Some chairs are heavier than some tables' than – as Peter van Inwagen (1990: 109) puts it – 'There are *x*s that are arranged chairwise and there are *y*s that are arranged tablewise and the *x*s are heavier than the *y*s'. And even if the former sentence is strictly false, it nonetheless conveys, *inter alia*, the content of the latter, true sentence. (Moreover, in other cases it is far less straightforward to paraphrase away talk of composites; see Uzquiano, 2004.) So in their talk of composites, ordinary speakers (or if you prefer: simples arranged ordinary-speakerwise) can accurately communicate significant patterns in the arrangement of simples much more efficiently than if they quantified over the simples themselves. And for their purposes it matters not at all if these utterances are strictly false. So in a practical sense, ordinary speakers are *correct* to take themselves to perceive composites, even if there are none. For given their ordinary interests, they are better off focusing on the significant features of the arrangement, rather than wasting valuable cognitive resources on comparatively insignificant features of the simples. Thus nihilists can explain ordinary speakers' apparent perception of composites as a reasonable mistake. Epistemically it is a mistake; but there is a good practical reason for making it. And the practical reason explains the epistemic mistake, even though the mistake is unintentional. And practically, it is no mistake at all for non-philosophers to take themselves to perceive composites.

I conclude that neither universalists nor nihilists seriously violate charity to perception. For both can explain any perceptual errors they ascribe to ordinary speakers as reasonable mistakes. Indeed, regardless of the truth about composition, it is plausible that our visual faculties have evolved and developed so as to automatically focus on those features of the local distribution of matter that correspond to the putative composites of commonsense ontology – the benefits of focusing our attention in this way are manifest. So even if this feature of ordinary visual experience obscures the truth about composition, that effect is benign and unmysterious.

So, properly understood, none of the three elements of charity appealed to by Hirsch support his conclusion that the commonsense view of composition is trivially true in plain English.

1.5   Conclusion

Assuming that my arguments succeed, serious ontologists – at least, those of them inclined to take ontological deflationism seriously – may breathe a collective sigh of relief. For Hirsch's account is commonly regarded as the most advanced version of that view in the literature, and so as the greatest contemporary threat to ontology's (always somewhat precarious) status as a serious intellectual enterprise. (For his deflationary strategy could apparently be generalised beyond the debates he explicitly targets.) I haven't argued against quantifier variance, and some might think that the truth of that doctrine would be bad enough. But given that Hirsch's arguments for verbalness and triviality fail even with that dubious assumption in place, we shouldn't let those arguments drive us away from natural language. Metaphysicians needn't concern themselves with the esoteric truths of some imagined 'language of ontology', or worry about *what there is* in some abnormal sense of that question. Perhaps there will be more conceptual analysis involved in ontology (and in metaphysics more generally) than some would have liked; but we shouldn't therefore infer that any of its major disputes are verbal in any worrying sense, or that they have trivial solutions. We can do serious ontology in plain English.

2

Devious Stipulations

2.1 Analyticity and Ontology

Traditionally, analytic truths have been thought, in some good sense, to require nothing of the world. And it is a corollary of this thought that combining a theory with its analytic consequences never produces a theory that requires more of the world than the original. Rudolf Carnap (1950) employed this idea in an attempt to reconcile his empiricism with a liberal acceptance of abstract entities; claiming that the existence of numbers, properties etc. can be trivially deduced by the rules governing our expressions for such things, once those expressions and rules are introduced into our language. In a highly influential response (1951), Willard Van Orman Quine argued that the analytic/synthetic distinction Carnap relied on for that result is untenable. Thereafter many so-called analytic philosophers, reputedly a majority for a while, followed Quine in disavowing analyticity altogether.

However, since then, analyticity has slowly crept back into philosophical respectability. Nowadays, it seems, analytic philosophers are mostly inclined to accept both that there are analytic truths (see Bourget and Chalmers, 2014), and that such interpreted sentences are characteristically metaphysically undemanding, at least in the sense of being neutral with respect to our position in logical space. Rather than rejecting analyticity outright, most would simply deny that there are any metaphysically *interesting* analytic truths. Meanwhile, going against the grain somewhat, there have in recent years been several notable attempts to answer ontological questions through conceptual analysis (see Hale and Wright, 2001; Schiffer, 2003; Thomasson, 2007, 2015; Hirsch, 2011; Hofweber and Velleman, 2011; Steinberg, 2013). And, by and large, all sides agree that *if* the existence of certain things analytically follows from sentences we already accept, then explicitly acknowledging the existence of those things cannot sensibly be regarded as an extra theoretical cost.

In his 'Analyticity and Ontology', Louis deRosset challenges this consensus. He tries to refute two principles (2015: 131, 139):

DAO If *P* analytically entails the existence of certain things, then a theory that contains *P* but does not claim that those things exist is no more ontologically parsimonious than a theory that also claims that they exist.

GAO If *P* analytically entails *Q*, then (*P* ∧ *Q*) requires nothing more of the world than does *P*.

(DAO is what deRosset calls 'the doctrine of analyticity in ontology' and is his main target. GAO is a generalisation thereof.)

He glosses these principles as follows: 'a sentence ϕ is *analytic* iff it is entailed by true sentences ψ_1, ψ_2, ... such that failure to accept any ψ_n constitutes some measure of linguistic incompetence' (2015: 133); 'a sentence ϕ *analytically entails* a sentence ψ iff the material conditional ($\phi \Rightarrow \psi$) is analytic' (2015: 133); 'the parsimony of a theory is given by what the truth of the theory requires of the world *with respect to what there is*' (2015: 138). So the more ontologically parsimonious a theory is, the less it requires of the world with respect to what there is.

DeRosset does not define what it is for a sentence or theory to *require something of the world*, but makes clear that 'the world' here rigidly designates the actual world:

The argument [against GAO] here relies on the assumption that *actually: ϕ* requires no less of the world – the *actual* world, that is – than does ϕ. [...W]hat's required of the actual world for *actually: grass is green* to be true is just for the actual world to meet whatever requirements there are for *grass is green* to be true. (2015: 143; see also n. 20)

Perhaps we should accept something along the following lines: a sentence ϕ requires of the world that *R* iff (i) '*R*' does not logically follow from sentences that are true entirely because of their meanings, and (ii) whichever world is actual, if ϕ is true, this is partly because *R*. And then: a sentence ϕ requires nothing more of the world than a sentence ψ iff, however '*R*' is replaced, if ϕ requires of the world that *R*, then ψ requires of the world that *R*. Thus 'Actually grass is green' requires nothing more or less of the world than 'Grass is green'.

I won't rely on the correctness of the above definitions exactly as stated; just as deRosset, so he tells us (2015: 134), does not rely on his 'rough and ready' definition of analyticity. However, I shall make two assumptions. First: (schematically) if a sentence requires of the world that *R*, then, whichever world is actual, that sentence is true only if *R*. Second: if a sentence is true entirely because of its meaning, then it requires nothing of the world. (Notice that I say 'entirely because' here, not 'only because'. This is to allow for overdetermination. Plausibly, 'Everything is self-identical' is true partly because everything is self-identical (see Quine, 1954: 113; Boghossian, 1996: 364). Nonetheless, that sentence is fully determined to be true by its meaning; so in the relevant sense, it requires nothing of the world (see Russell, 2008: §1.2).)

Now, to see the *prima facie* appeal of DAO and GAO, consider:

(M1)   Someone is married.

(M2)   Someone is married to someone else.

(M1) explicitly affirms the existence of one person only, whereas (M2) explicitly affirms the existence of two. Nonetheless it seems clear that the conjunction of (M1) and (M2) requires nothing more of the world (and in particular, is no less ontologically parsimonious) than (M1) alone, because (M1) analytically entails (M2). And likewise, we might think, for more metaphysically interesting analytic entailments, if such there be.

However, deRosset denies that DAO and GAO hold in full generality. He suggests that in the metaphysically interesting cases just alluded to, these principles are liable to break down. So even if, to take his leading example, 'There are particles arranged tablewise in location *L*' analytically entails 'There is a table in *L*', it remains plausible that the conjunction of these sentences is less ontologically parsimonious than the former sentence alone. (Here he targets Amie Thomasson in particular. For the relevant sense of 'arranged tablewise' and the like, see her 2007: 16-17.)

Thus while unQuineanly granting the tenability of the analytic/synthetic distinction, deRosset disputes its metaphysical significance. To this end, he purports to produce counterexamples to DAO and GAO by means of linguistic stipulations. He offers two main candidate counterexamples just to GAO (though he admits that the first of these is not decisive) and one specifically to DAO. I aim to show where these arguments go wrong.

2.2 'Verdantly*'

Here is deRosset's first candidate counterexample to GAO. (I bypass his initial, illustratively unsuccessful 'verdantly' stipulation.) Suppose we introduce a new sentential operator 'verdantly*' by stipulating the following rules of inference:

$P \vdash$ Verdantly* P

Verdantly* $P \vdash$ Actually grass is green

Verdantly* $P \vdash$ Possibly P

'Actually' here has its familiar interpretation from two-dimensional semantics: ⌜Actually ϕ⌝ is true at a world iff ϕ is true at the actual world. Hence what deRosset calls *Stevenson's constraint* on linguistic stipulation (a generalised version of the constraint proposed by Stevenson, 1961) initially appears to be satisfied:

> [A] linguistic stipulation succeeds only if there is a consistent way to assign truth conditions to sentences containing the introduced term that makes the content of the stipulation true. (2015: 141)

To see this, suppose grass were not green. Then by the above introduction rule, 'Verdantly* grass is not green' would be true, and so by the first elimination rule, 'Actually grass is green' would be true. But even if grass were not green, grass would still be green at the actual world, so no inconsistency results.

If his 'verdantly*' stipulation succeeds, deRosset tells us, we have a counterexample to GAO. For then 'Snow is white' analytically entails 'Actually grass is green'. But 'Snow is white and actually grass is green' requires more of the world than 'Snow is white'. For the latter only requires that snow be white, whereas the former also requires that grass be green.

However, deRosset admits some uncertainty as to whether this stipulation succeeds (2015: 143-4). For perhaps when applying Stevenson's constraint we are not entitled to take for granted *a posteriori* necessities such as the fact that actually grass is green. Perhaps we

should also consider how to evaluate sentences containing 'verdantly*' on the assumption that actually grass is not green. But then consider what truth value should be assigned to

> Verdantly* grass is either green or not green.

If it is true, the first elimination rule for 'verdantly*' is invalid, because 'Actually grass is green' is by hypothesis false. If, on the other hand, the evaluated sentence is false, the introduction rule is invalid, because 'Grass is either green or not green' is (we may assume) logically true. So the 'verdantly*' stipulation fails to meet Stevenson's constraint on this more stringent construal. DeRosset ultimately leaves open how stringently Stevenson's constraint should be construed, and so admits that his 'verdantly*' stipulation does not provide a decisive counterexample to GAO.

Fair enough; though whichever way we construe Stevenson's constraint, I wonder how useful it will be for adjudicating on attempted stipulations in cases where the bounds of conceptual possibility are in dispute. Should we consider how to evaluate sentences containing 'number' or 'proposition' on the assumption that there are only finitely many things, for example? If so, then the broadly Fregean and Carnapian views of abstracta targeted by deRosset are in trouble; but any such objection to those views – which, to be fair, deRosset does not himself raise – seems question-begging.

In any case, there is another reason to think that the 'verdantly*' stipulation fails. For 'verdantly*', as defined, is by reasonable standards clearly and fatally *nonconservative*. Nuel Belnap (1962) recommended a conservativeness constraint on stipulation in response to Arthur Prior's (1960) parody of implicit definition, wherein 'tonk' is defined by the rules:

$P \vdash P$ tonk Q

P tonk $Q \vdash Q$

Thus any sentence analytically entails any other; hence every sentence is analytic. Obviously the stipulation fails; the only question is *how*. J. T. Stevenson (1961) proposed one constraint in response: every truth-functional connective must have a consistent truth table (notice that this is significantly weaker than the constraint deRosset names after Stevenson, on either construal of the latter). Belnap proposed another constraint: the introduction of any new vocabulary must yield a conservative extension of the language. That is to say, the rules

stipulated to govern new vocabulary cannot allow the derivation of any sentence of the old language (i.e. any sentence without the new vocabulary) that was not already derivable.[3] In footnotes, deRosset describes this conservativeness constraint, and observes that it is met by his subsequent stipulations – presumably regarding this as a point in their favour – but conspicuously does not claim the same for his 'verdantly*' stipulation. And it is easy to see why: 'Actually grass is green' is a synthetic sentence of English before this stipulation, but would become derivable from any sentence whatsoever (and hence analytic) were the stipulation to succeed. Thus Belnap's constraint is manifestly violated.

Admittedly, many regard Belnap's constraint as too strong (see Read, 1988: §9.3; 2000: 125-7; Peacocke, 1993: §§3-4; 2004: 18-21; Prawitz, 1994: 374; Shapiro, 1998: §3). For example, it seems legitimate to add second-order quantifiers or a truth predicate to a first-order system of arithmetic, though doing so enables the derivation of the original system's Gödel sentence. Also, abstraction principles such as Hume's Principle

The number of Fs = the number of Gs iff there are just as many Fs as Gs

if successfully stipulated, allow us to derive results about the (infinite) size of the domain of first-order quantification that were previously statable but perhaps unprovable. Hence Bob Hale and Crispin Wright endorse a weaker version of conservativeness (cf. Field, 1980: ch. 1; Wright, 1997: §9; 1999: §2.5; Schiffer, 2003: §2.2), also mentioned by deRosset (2015: 141, n. 19), with the following proviso attached:

> It is our view that a stipulation *may* have consequences which can be expressed in the antecedent language, and to which there need have been no previous commitment, without compromise of its legitimacy *provided* the truth of these consequences makes no demands on the previously recognised ontology. (Hale and Wright, 2000: 302, n. 32)

However, the truth of 'Actually grass is green' clearly makes demands on the previously recognised ontology. For it demands that grass be green. So the 'verdantly*' stipulation fails to meet even this weaker version of conservativeness. So if either Belnap's or Hale and Wright's version of conservativeness is correct, this stipulation cannot provide a genuine counterexample to GAO.

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[3] This principle of conservativeness, or 'noncreativity', was previously endorsed by others; see e.g. Frege, 1914: 208. For a historical discussion, see Urbaniak and Hämäri, 2012.

Moreover, regardless of the specific constraints on stipulation, deRosset's 'verdantly*' example faces a ruinous dilemma. First horn: 'Actually grass is green' retains its prior meaning. Then the nonanalyticity of this sentence, given its empirical status, is far more certain than the success of the stipulation. Given our understanding of analyticity, regrettably imprecise as that may be, it is absurd to think that we could make this sentence analytic without changing its meaning. So we should conclude, in Moorean fashion, that the stipulation *somehow* fails. If there were no known constraint that prohibited this stipulation, we would have to posit one. That, *mutatis mutandis*, is the lesson of 'tonk'. Second horn: 'Actually grass is green' loses its prior meaning. Then we don't know what, if anything, this sentence means after the stipulation: its subsequent meaning seems to be radically underdetermined. So we have no reason to accept that its conjunction with 'Snow is white' requires more of the world than 'Snow is white' alone. Either way, we do not get a genuine counterexample to GAO.

2.3   'Grassgreen'

Let us now examine deRosset's second candidate counterexample to GAO:

> Suppose we stipulate that 'grassgreen' is to be a predicate that expresses the property *being green* if, as a matter of fact, grass is green, and *not being green* otherwise. (2015: 144)

This stipulation, deRosset tells us, meets Stevenson's constraint even on its more stringent construal, as well as meeting other proposed constraints including conservativeness, generality and harmony.[4]

Now, he continues, we have a more decisive counterexample to GAO. For if this stipulation succeeds, then 'Grass is grassgreen' is thereby guaranteed to be actually true, no

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[4] The latter two constraints are proposed by Hale and Wright (2000) – in addition to their version of conservativeness – and are described by deRosset thus: '*Generality*: the stipulation should enable the interpretation of a wide enough range of relevant sentences'; '*Harmony*: the introduction and elimination rules should not allow us to infer more (or problematically less) than our warrant for the premises allows us to infer' (2015: 141, n. 19).

matter what colour grass actually has.[5] So 'Snow is white' analytically entails 'Grass is grassgreen'. But 'Snow is white and grass is grassgreen' requires more of the world than 'Snow is white'. For since actually grass is green, 'grassgreen', according to the stipulation, expresses the property of being green. So whereas 'Snow is white' only requires that snow be white, 'Snow is white and grass is grassgreen' also requires that grass be green.

Clearly something fishy is going on here. If 'Grass is grassgreen' is guaranteed to be actually true, no matter what colour grass actually has, then it cannot *require* of the actual world that grass be green. Even if we grant that the stipulation succeeds, it seems sensible to examine the semantics of the novel term 'grassgreen' a little more closely before we embrace inconsistency. So what is its stipulated meaning? That, I think, depends on whether the stipulation is *conditional* or *unconditional*. This yields another dilemma.

First horn: 'is grassgreen' is conditionally stipulated to mean *is green* if actually grass is green, and *is not green* otherwise. Then the stipulation does not by itself settle the meaning of this predicate. The inscription-type 'Grass is grassgreen' is thereby guaranteed to express some truth at the actual world in our extended language, but *which* truth it expresses depends on the actual colour of grass. In fact, since actually grass is green, the resulting interpreted sentence is exactly synonymous with 'Grass is green'. So we have no reason to think that it is analytically entailed by 'Snow is white'. Second horn: 'is grassgreen' is unconditionally stipulated to mean *is green iff actually grass is green*.[6] Then 'Grass is grassgreen' does not require of the actual world that grass be green. Nor does it require anything else of the world. So its conjunction with 'Snow is white' requires nothing more of the world than 'Snow is white' alone. Either way, we do not get a genuine counterexample to GAO.

DeRosset concedes that it is unclear what, exactly, we should take 'grassgreen' to mean, but insists that this does not matter for his purposes, so long as his stipulation succeeds (2015: 148). On the contrary, his argument here apparently rests on an equivocation between two intensionally equivalent interpretations of the introduced predicate, either of which is consistent with the explicit content of the stipulation. (Likewise for deRosset's third candidate counterexample, as we shall shortly see.) On one interpretation, 'Grass is grassgreen' requires something of the world, but is not guaranteed by its meaning to be actually true. On another interpretation, 'Grass is grassgreen' is guaranteed by its meaning to

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[5] At least, 'Grass, if it exists, is grassgreen' is guaranteed to be actually true; like deRosset, I set aside this nuance. Also I grant that analytic truths can be contingent. As deRosset explains in his paper, he regards that assumption as inessential to his arguments anyway.

[6] Or, more longwindedly: *is such that either (a) it is green and actually grass is green or (b) it is not green and it is not the case that actually grass is green*.

be actually true, but requires nothing of the world. And yet, on an intensional individuation of properties, 'grassgreen' expresses the same property on either interpretation: the property of being green.

As it happens, deRosset anticipates the second interpretation, though he relegates this point to a brief footnote:

> It is plausible, perhaps, to think that the truth of ['Grass is grassgreen'] requires that grass be green iff grass is *actually* green; this is the view most naturally suggested by the content of the 'grassgreen' stipulation. But this requirement clearly goes beyond the requirement for the truth of ['Snow is white'], as evidenced by the fact that the requirement is not satisfied in circumstances in which grass is purple but snow is still white. (2015: 161-2, n. 47)

This response is clearly inadequate, however. For deRosset, recall, takes the expression 'requires nothing more of the world', as it appears in GAO, to be equivalent to 'requires nothing more of the actual world'. And though 'Grass is green iff actually grass is green' plausibly requires of *nonactual* worlds that grass be green, it requires nothing of the actual world (see Evans, 1979: §4; Davies and Humberstone, 1980: §2). So if 'Grass is grassgreen' merely abbreviates that biconditional, then its conjunction with 'Snow is white' requires nothing more of the world than 'Snow is white' alone. It is irrelevant that at some other possible world the biconditional is false while 'Snow is white' is true.

2.4 'Priman Beings'

Now for deRosset's third candidate counterexample to GAO, which he also intends to serve as a counterexample to DAO:

> Suppose we stipulate that 'priman being' is to be a predicate that expresses the property *being a human being* if, as a matter of fact, there are more than seven billion human beings, and *being a prime number* otherwise. (2015: 146)

The stipulation here closely parallels that of deRosset's previous example. And as with his previous example, he assures us that this stipulation meets all the constraints mentioned so far.

If this stipulation succeeds, he continues, then the material conditional 'If there are more than 7 billion prime numbers, then there are more than 7 billion priman beings' is thereby guaranteed to be actually true, no matter how many humans there actually are, hence it is analytic. So 'There are more than 7 billion prime numbers' analytically entails 'There are more than 7 billion priman beings'. But 'There are more than 7 billion prime numbers and there are more than 7 billion priman beings' requires more of the world (and in particular, is less ontologically parsimonious) than 'There are more than 7 billion prime numbers'. For since actually there are more than 7 billion humans, 'priman being', according to the stipulation, expresses the property of being human. So whereas 'There are more than 7 billion prime numbers' does not require the existence of any humans, 'There are more than 7 billion prime numbers and there are more than 7 billion priman beings' requires the existence of more than 7 billion of them.

The analogy with deRosset's 'grassgreen' example should be clear; hence I shall respond analogously. If, given the existence of more than 7 billion prime numbers, 'There are more than 7 billion priman beings' is guaranteed to be actually true, no matter how many humans there actually are, then it cannot *require* of the actual world that there be more than 7 billion humans. Even if we grant that the stipulation succeeds, we should examine the semantics of the novel term 'priman being' a little more closely before we embrace inconsistency. So what is its stipulated meaning? Again, that depends on whether the stipulation is *conditional* or *unconditional*. This yields a dilemma.

First horn: 'is a priman being' is conditionally stipulated to mean *is human* if actually there are more than 7 billion humans, and *is a prime number* otherwise. Then the stipulation does not by itself settle the meaning of this predicate. Provided that there are more than 7 billion prime numbers, the inscription-type 'There are more than 7 billion priman beings' is guaranteed by the stipulation to express some truth at the actual world in our extended language, but *which* truth it expresses depends on how many humans there actually are. In fact, since actually there are more than 7 billion humans, the resulting interpreted sentence is exactly synonymous with 'There are more than 7 billion humans'. So we have no reason to think that it is analytically entailed by 'There are more than 7 billion prime numbers'. Second horn: 'is a priman being' is unconditionally stipulated to mean *is human if actually there are more than 7 billion humans, and a prime number otherwise*.[7] Then 'There are more than 7

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[7] Or, more longwindedly: *is such that either (a) it is human and actually there are more than 7 billion humans or (b) it is a prime number and it is not the case that actually there are more than 7 billion humans.*

billion priman beings' requires nothing more of the actual world than whatever is required for there to be more than 7 billion prime numbers. So its conjunction with 'There are more than 7 billion prime numbers' requires nothing more of the world, and is no less ontologically parsimonious, than 'There are more than 7 billion prime numbers' alone. Either way, we do not get a genuine counterexample to either GAO or DAO.

2.5   Conclusion

So, as we have seen, none of deRosset's stipulations yields a genuine counterexample to either of the principles he targets. Despite his efforts to discredit them, the doctrine of analyticity in ontology and its generalisation remain as plausible as ever.

3

Conciliatory Nihilism and the Threat of Self-Defeat

3.1   Nihilism without Error Theory

Mereological nihilism, in its most straightforward guise, is the view that there are no composite entities. Everything is simple, nothing has proper parts. Why would anyone endorse this view? In short: puzzles and parsimony. Various metaphysical puzzles (or 'paradoxes') of vagueness, cardinality, persistence and *de re* modality have been taken by some to show that the very idea of composition is inherently defective.[8] And even when composition is conceded to be conceptually coherent, it is sometimes seen as metaphysically excessive. Although we are naturally inclined to describe observable events in terms of the interactions of composite macroscopic objects, we could, it seems, equally well (albeit less succinctly) describe such events purely in terms of the interactions of elementary particles, or patterns among propertied spacetime points. Composites are explanatorily redundant, it is claimed. So, for the sake of ontological parsimony, we should deny their existence (see Merricks, 2001: ch. 3; Dorr, 2002: ch. 2; Schaffer, 2007: 176-8; French, 2014: 170). Another motivation is ideological parsimony (see Sider, 2013a: §1). If we accept that many-one composition occurs, it seems we must accept some mereological concept as primitive, since no mereological concept plausibly admits of non-mereological analysis. If, on the other hand, we decide that no things ever compose anything else, we needn't employ mereological concepts at all in our considered descriptions of how things are. Parthood, overlap and composition each reduce to identity; thus we reduce our ideological commitments.

On the face of it, nihilism entails that ordinary thought and talk is massively in error. In our everyday lives, we assume and affirm the existence of countless macroscopic objects: artefacts, organisms, and so on. And macroscopic objects (ourselves included) are each and all *composite*, are they not? In response, nihilists *could* say: so much the worse for ordinary

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[8] For overviews of these puzzles, see Ney, 2014: ch. 3; Korman, forthcoming: ch. 2.

thought and talk. We are misled by appearances, cultural prejudice and evolutionarily advantageous inherited cognitive mechanisms into accepting the existence of composites. Or rather, whenever there are simples arranged personwise, those simples are *collectively* misled, until philosophical reflection reveals the stark metaphysical truth. That would be to endorse an error theory. However, many would-be nihilists are curiously reluctant to be error theorists. They would rather have it both ways: nihilism is true, yet ordinary thought and talk ostensibly about composites is also largely true. The folk may be fallible, but they are not prone to systematic mereological error. Call this position *conciliatory nihilism.*

Why be a conciliatory nihilist rather than an error theorist? Two main considerations seem to motivate this choice. First, interpretive charity. If we find ourselves ascribing massive error to ordinary speakers, we thereby have good reason to think that we are misinterpreting them; so we should avoid ascribing massive error to them (see Dorr, 2005; Williams, 2010; Hirsch, 2011; Sider, 2014). Second, the schematic Moorean defence of common sense. Obvious truth ϕ is more certain than the soundness of any philosophical argument for its negation. Even if the argument is valid, ϕ will be more credible than the conjunction of that argument's premises. So we should reject any philosophical argument for denying ϕ, even if we can't yet see how the argument fails (see van Inwagen, 1990: 100-3; Fine, 2001: 2; Lycan, 2001; Thomasson, 2007: 3; Schaffer, 2009: 357-8; Cameron, 2010a; Hirsch, 2011: 97-8; Williams, 2012; French, 2014: 170-1). And one such obvious truth, we might think, is that there are macroscopic objects such as artefacts and organisms.[9]

As I have characterised it so far, conciliatory nihilism invites a fairly obvious objection. If everyday discourse is largely true and free of systematic mereological error, then sentences of the form 'x is part of y', where $x \neq y$, are often uttered truly. But, given the nonidentity of their referents, such sentences trivially entail 'Something has proper parts'. So, disquoting, something has proper parts. So nihilism is false.

This is the threat of self-defeat. Conciliatory nihilists have sought to avoid it in various ways. Often they propose semantic theories designed to render ordinary talk consistent with the nonexistence of composites. Sometimes they resort to reformulating mereological nihilism, in the hope of maintaining a distinctive ontological view worthy of that name – i.e. a view that, terminological differences aside, is incompatible with standard versions of mereological realism. In the remainder of this chapter, I argue that each of these

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[9] Contrast this standard manoeuvre – in the style of David Armstrong, David Lewis and G. E. Moore himself – with the so-called 'Mooreanism', i.e. crude deference to common sense, dismissed by Sider (2013a). For critiques of genuine Mooreanism, see Rinard, 2013; Daly and Liggins, 2014.

strategies fails to plausibly reconcile any such view with the truth of everyday discourse. Given the range of conciliatory strategies considered and firmly rejected, it seems likely that conciliatory nihilism, despite its recent popularity among metaphysicians, is quite generally untenable. In which case, its proponents should either abandon their conciliatory inclinations or abandon their nihilism.

3.2 Disguised Plurals

It is widely accepted that, in natural language, syntactically plural expressions are sometimes semantically singular. If I truly say to you 'Those scissors are sharp', then, grammar notwithstanding, I refer to a single tool, and I tell you that *it* is sharp. If I truly say to you 'Your trousers are falling down', then, grammar notwithstanding, I refer to a single garment, and I inform you that *it* is departing from your waist.

Similarly, it is plausible that, in natural language, syntactically singular expressions are sometimes semantically plural (see Black, 1971: 631-6; Simons, 1982: 189-90; Cartwright, 1993: 213ff.; McKay, 2006: 42-5; Cotnoir, 2013: 297-300; Oliver and Smiley, 2013: 273-5; Korman, forthcoming: 167-77). If I truly say 'Bert and Ernie are a couple', then I identify Bert and Ernie as a couple. And since Bert and Ernie are two in number, so is the couple to which they are identical, grammar notwithstanding. And if I truly say 'There are police officers among that crowd', then I apply a binary predicate, 'among', that is plural in its second argument place. So 'that crowd' is semantically plural, grammar notwithstanding. A crowd is just many people gathered together, or so it seems.

Some philosophers will resist this line of thought, preferring to construe 'couple' and 'crowd' as singular predicates satisfied by *sets* or *fusions* of people. However, let us at least grant for the sake of the argument that it is possible for syntactically singular expressions to be semantically plural. The question then is how *common* such disguised plurals are in our language.

According to the version of conciliatory nihilism I shall first consider, disguised plurals are very common indeed; for ordinary talk of macroscopic objects is *all* disguised plural talk. On this view, when someone lifts a chair and says 'This chair is heavy', despite appearances she does not refer to a single composite artefact and ascribe heaviness to it.

Rather she plurally refers to many simples and says that they are *collectively* heavy.[10] Similarly, when someone says 'There is a chair', despite appearances she quantifies plurally, and her utterance is true just in case some things in her domain of quantification *collectively* satisfy the predicate 'chair'. That is, just in case some of them are *arranged chairwise*, in roughly the sense specified by Peter van Inwagen (1990: 109; 1993: 719) or Trenton Merricks (2001: 3-8). In this way, it is claimed, the truth of ordinary thought and talk is largely compatible with mereological nihilism. Call this view *disguised-plurals nihilism* (see Hossack, 2000; Toner, 2006; Liggins, 2008; Contessa, 2014).

Disguised-plurals nihilists face the tricky question of how to treat explicit talk of parts and wholes in our language. One solution, originally due to Adam Morton (1975: 314), is to interpret 'is part of' as synonymous with the plural inclusion predicate 'are among', understanding each as transitive and reflexive. Then, for instance, 'The roof is part of the house' can be analysed as 'The things arranged roofwise are among the things arranged housewise', and 'Something is part of something else' can be analysed as 'Some things [i.e. one or more things] are among some other things'.

This provides an effective way to vindicate ordinary speakers from the charge of mereological error. But then the threat of self-defeat becomes all too apparent. For, given Morton's interpretation, nihilism is analytically equivalent to 'Nothing is among any other things'. And that is obviously inconsistent with the shared assumption that there is more than one thing. Perhaps for this reason, Morton refrains from endorsing nihilism himself (1975: 317).

Alternative solutions are less conciliatory. First, disguised-plurals nihilists might say that explicit predications of parthood are never true when the putative *relata* are distinct. (This seems to be Gabriele Contessa's view (2014: 217-18), though he does not discuss Morton's earlier proposal.) On this approach, 'The roof is part of the house' is never true, at best being a pragmatically correct way to convey that the relevant simples arranged roofwise are among the relevant simples arranged housewise. So there are roofs and houses, but no roof is part of a house. Second, disguised-plurals nihilists might say that the quantifiers 'something', 'everything' and 'nothing' are univocally singular. Then they could accept both 'The roof is part of the house' and 'The roof is not identical to the house', but reject the inference to 'Something is part of something else'. On this approach, there are roofs and houses, but nothing is a roof and nothing is a house.

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[10] So, on this view, 'those scissors' and 'your trousers' are semantically plural after all, but not because they are syntactically plural.

Of course, such restrictions to the disguised-plurals strategy seem totally *ad hoc*, designed solely to avoid self-defeat. Whatever motivation nihilists have for analysing 'This chair is heavy' as 'These things arranged chairwise are collectively heavy' should equally well motivate them to analyse 'The roof is part of the house' as 'The things arranged roofwise are among the things arranged housewise', and to analyse 'Something is part of something else' as 'Some things are among some other things'. Conversely, if nihilists are somehow justified in ascribing mereological error in these problematic cases, then they would presumably be similarly justified in adopting a more general error-theoretic approach. In which case, the disguised-plurals strategy is otiose.[11]

Eschewing such arbitrary restrictions, David Liggins (2008) proposes to take disguised-plurals nihilism to the extreme. In particular, he advises nihilists to follow Morton in analysing 'Something is part of something else' as 'Some things are among some other things'.[12] Hence, according to Liggins, nihilists should regard 'Something is composite' as *true*. But this amounts to admitting the falsity of nihilism, as standardly formulated.

Liggins consequently advises nihilists to reformulate their ontological view as 'No composite is one'; where some things *are one* just in case they have exactly one thing among them. However, according to the proposed semantics, 'have exactly one thing among them' means just the same as 'has no proper parts'. Hence, on Liggins's account, 'No composite is one' is synonymous with 'No composite is noncomposite'. And the latter sentence is an utterly trivial tautology. So the reformulation of nihilism proposed here makes no distinctive ontological claim.

Liggins also suggests that nihilists could state their view metalinguistically, along the following lines:

'Something is composite' *would be false* if it involved semantically singular quantification.

However, if 'Something is composite' involved semantically singular quantification, then it would presumably mean just the same as 'Something that is one is composite'. So, according to the proposed semantics, Liggins's metalinguistic statement is equivalent to:

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[11] Similarly, self-styled nihilists who identify ordinary objects with spatiotemporally located *sets* or *arrangements* of simples should, by parity of reasoning, identify parthood with the *subset* or *subarrangement* relation; thereby falling straight into self-defeat. See Sider, 2011: ch. 13; 2013a: 245, 253, n. 33, 287-8; Goldwater, 2015.

[12] Unlike Morton, Liggins construes 'is part of' and 'are among' as irreflexive; but that won't be relevant here.

'Something is composite' *would be false* if it meant the same as 'Some noncomposite is composite'.

And once again, this is utterly trivial. Such 'nihilism' would appear to be perfectly compatible with *realism* about composition.

At this point, extreme disguised-plurals nihilists might try to claim an advantage of ideological parsimony. For they analyse all mereological notions in plural terms, whereas mereological realists must accept some mereological notion as primitive. However, any apparent ideological advantage here is illusory. Let us grant that mereological realists need a primitive understanding of plural quantification in order to comprehend many meaningful sentences of our language (see Boolos, 1984, 1985; Lewis, 1991; McKay, 2006; Oliver and Smiley, 2013). If so, however, disguised-plurals nihilists will likewise need a primitive understanding of *superplural* quantification for the very same purposes (see Lewis, 1991: 70, n. 4; Rosen and Dorr, 2002: 172-3, n. 21; Uzquiano, 2004; Bennett, 2009: 59-60; Contessa, 2014: 207, n. 18).

Consider the Geach-Kaplan sentence: 'Some critics admire only one another.' As is well known, this sentence cannot be adequately formalised in singular first-order logic (see Boolos, 1984: 432-3). So, following advocates of plural logic, mereological realists might decide that, in addition to the standard apparatus of singular first-order logic, a correct formalisation of this sentence will involve quantifiers binding plural variables, and a singular-plural inclusion predicate, pronounced 'is one of', like so:

$$\exists xx \, (\forall x(x \prec xx \rightarrow Cx) \, \& \, \forall x \forall y((x \prec xx \, \& \, Axy) \rightarrow (y \prec xx \, \& \, {\sim}x{=}y)))$$

where '$\prec$' symbolises singular-plural inclusion; from which a general notion of *plural inclusion* can be defined, covering also plural-plural inclusion.

However, since critics are generally taken to have proper parts (hands, eyebrows, etc.), if disguised-plurals nihilists are to adjust that analysis to their view, they must replace its singular quantifiers and variables with plural quantifiers and variables, replace its plural quantifiers and variables with superplural quantifiers and variables, and replace '=' and '$\prec$' with predicates for plural identity and plural-superplural inclusion, like so:

$$\exists xxx \, (\forall xx(xx \prec\prec xxx \to Cxx) \,\&\, \forall xx \forall yy((xx \prec\prec xxx \,\&\, Axxyy) \to (yy \prec\prec xxx \,\&\, {\sim}xx{==}yy)))$$

where '==' symbolises plural identity, and '≺≺' symbolises plural-superplural inclusion; from which a general notion of *superplural inclusion* can be defined.[13] Now, plural identity can be defined as reciprocal plural inclusion, so no problem there. But superplural quantification and plural-superplural inclusion cannot be defined in standard plural logic. They must be taken as primitive. (And if it turns out that mereological realists also need a primitive understanding of superplural quantification, together with its associated notion of inclusion, then disguised-plurals nihilists will correspondingly need a primitive understanding of *superduperplural* quantification, associated with yet another notion of inclusion; and so on.)

Opinions differ regarding the intelligibility of superplural quantification (see Simons, 1982: §7; Lewis, 1991: 70-1; Hazen, 1997: 247; Uzquiano, 2004: 439-40; McKay, 2006: 46-53, 137-9; Rayo, 2006; Linnebo and Nicolas, 2008; Ben-Yami, 2013; Oliver and Smiley, 2013: 127-8, 275-9). So disguised-plurals nihilists might instead try to analyse the likes of the Geach-Kaplan sentence by means of monadic second-order quantification: understood here as singular quantification over sets (*pace* Boolos, 1984, 1985) or plural properties, or taken as primitive; or by some other means. But whatever plausibility such alternative proposals have, to the extent that disguised-plurals nihilists can get by without superplural quantification, mereological realists can likewise get by without plural quantification. So, by analysing mereological notions in plural terms, extreme disguised-plurals nihilists gain no ideological advantage over their realist opponents. They just trade one primitive for another.

Or rather, they just trade one *notation* for another. Consider a mereological realist who takes 'is part of' to have the status of a logical predicate, governed by the axioms of classical mereology plus atomism.[14] (Atomism being the doctrine that everything is composed of simples.) The extreme disguised-plurals 'nihilist', it turns out, *is precisely* such a realist; except she calls parthood 'plural inclusion', calls plural inclusion 'superplural inclusion', calls singular quantification restricted to simples 'singular quantification', calls singular quantification *simpliciter* 'plural quantification', calls plural quantification 'superplural quantification', and calls the relation between a singular term token and the

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[13] Notice that, by such reasoning, disguised-plurals nihilists should treat 'couple' and 'crowd' as disguised *superplural* predicates.

[14] Minus the *a priori* atomism, this is Lewis's view; see his 1991: 62. And as discussed later, he is a paradigm mereological realist. For relevant commentary, see Hazen, 1997: 243; Dorr, 2005: 280, n. 38. See also Sider, 2015: §5, though he misses the connection with Lewis.

simple parts of any composite to which it refers 'plural reference'. In sum, without arbitrary restrictions to its conciliatory semantics, the disguised-plurals view is just a thinly disguised version of mereological realism.

3.3   Contextualism

Other conciliatory nihilists try to avoid self-defeat by appealing to the familiar linguistic phenomenon of context dependence. Thus, according to *contextualist nihilism*, sentences that appear to affirm the existence of ordinary composites, such as 'Chairs exist', are context-sensitive in such a way that they are true in ordinary contexts of utterance, but never true in contexts of metaphysical discourse. Views along these lines are proposed by Terence Horgan (1986a, 1986b, 1991, 2001), lately in coauthored work with Matjaž Potrč (2000, 2006, 2008), and independently by Peter van Inwagen (1990: ch. 10; 1993: 711-12; 2014).

Horgan and Potrč endorse existence monism: an unusual variant of mereological nihilism according to which the only concrete object is the whole cosmos; but they offer their contextualist semantics to all defenders of 'austere' ontologies. Van Inwagen, meanwhile, accepts the existence of organisms, while denying the existence of other material composites; much like Merricks (2001). So van Inwagen isn't exactly a contextualist *nihilist*, but he comes close enough to fall within the scope of our discussion.

Despite his contextualism, van Inwagen is often portrayed as an error theorist; a portrayal he has recently vigorously rejected (see Sider, 1993; Horgan and Potrč, 2000, 2008: 17-18; Cameron, 2008b: 299-301; Contessa, 2014: 200, n. 9; von Solodkoff, 2014: 573; van Inwagen, 2014: 10). Others interpret him as defending a contextually restricted disguised-plurals theory (see Merricks, 2001: 163-4; McKay, 2006: 42-3; Liggins, 2008; Bennett, 2009: 58; Parsons, 2013: 331). That can't be right either, however, for he explicitly says that, on his view, the proposition expressed by 'There are chairs' in ordinary contexts differs from that expressed by 'There are things arranged chairwise', despite their intensional equivalence. The purported difference between these propositions is admittedly elusive, given what van Inwagen says on the matter (1990: 112-13; 2014: 11-14), but that won't matter for present purposes.

Neither Horgan and Potrč nor van Inwagen defend their contextualism by appeal to implicit quantifier domain restriction, with good reason. For one thing, it seems that

sentences of the form '*F*s exist' are immune to such restrictions. While inspecting the contents of an unfurnished room, it seems false to say 'There are chairs', yet it still seems true to say 'Chairs exist' (see Walton, 2003; Daly and Liggins, 2014: 473-4; *pace* Schaffer, 2009: 360-1). Besides, metaphysicians typically intend to quantify *unrestrictedly* when stating their ontological views (see e.g. van Inwagen, 1990: 99-100; cf. Korman, forthcoming: 94). So it is very hard to see how composites could be constantly excluded from the domain of metaphysical discourse.

On the approach advocated by Horgan and Potrč, consistently with van Inwagen's less detailed account, the truth condition of 'Chairs exist' varies according to contextually determined standards of semantic correctness; just as the extension of 'flat' is thought to vary according to contextually determined standards of precision (cf. Lewis, 1979: 353). By the comparatively lax and pragmatic standards operative in everyday discourse, it suffices for the truth of 'Chairs exist' that there be things arranged chairwise in the world. Hence 'Chairs exist' is true in ordinary contexts. In contrast, by the more stringent standards operative in metaphysical discourse, the truth of 'Chairs exist' requires not only that there be things arranged chairwise, but also that they compose a chair. And by hypothesis, no things ever compose a chair. So 'Chairs exist' is false in metaphysical contexts.

What contextualist nihilists cannot plausibly account for, however, is how the semantic standards they associate with metaphysical discourse are established in the first place. They concede that, in all ordinary contexts, nothing more is required for 'Chairs exist' to be true than some simples being suitably arranged (where, let's suppose, this includes being arranged by means of a suitable production process). They should also concede that we learn to speak and think of chairs *exclusively* in such contexts. Accordingly, before we start doing academic metaphysics, we have no more demanding notion of what it takes for a chair to be composed (cf. Thomasson, 2007: 156; Rayo, 2013: 31). So if, upon engaging in metaphysical discourse, we were to establish a new semantic standard whereby 'Chairs exist' is *false*, regardless of how things are arranged, we would have to somehow coordinate our linguistic behaviour and attitudes so as to determine an *alternative*, more demanding truth condition for that sentence.

But we have no such alternative in mind. Metaphysicians have manifestly not settled on any shared alternative notion of what it takes for some things to compose a chair. Some of them may have unusual ideas on this matter, but there is certainly no revisionary consensus. Consequently, metaphysicians' actual linguistic behaviour and attitudes are not aptly coordinated to determine extraordinary truth conditions for the relevant sentences. Bearing

this in mind, it is reasonable to assume and unreasonable to deny that, differences in quantifier restriction aside, 'Several things compose a chair' retains its ordinary truth condition in metaphysical discourse, if it has *any* fixed truth condition in such contexts. Once it is granted that such sentences are literally true by ordinary standards, there is no *further* question of whether ordinary composites such as chairs exist. Contextualist nihilism is therefore untenable.

3.4   Fictionalism

Perhaps anticipating some such difficulties, conciliatory nihilists often defend a subtly modified thesis: composites don't *really* exist. And this arguably captures the original spirit of nihilism. After all, some eminent metaphysicians say that when we address ontological questions, we shouldn't be concerned with what merely exists. Rather we should be concerned with what *really* exists (see especially Fine, 2001, 2005, 2009). So it might be thought that nihilists can grant to ordinary speakers that composites exist, while denying that they *really* exist.

Taken at face value, this idea may seem absurd. For, ordinarily, '*F*s don't *really* exist' is just a way of denying that *F*s exist. 'Really' doesn't affect the asserted content, but rather functions to pragmatically signal an inconsistency between what is asserted and what is true according to some salient pretence, fiction or myth (see Yablo, 1998: 258-9; Reinhardt, 2013; Eklund, MS). Hence the conciliatory nihilists who say things like 'Composites exist, but not *really*' appear to contradict themselves, unless we take them to mean something unusual by 'really'.

Suppose, however, that many-one composition *is* a myth. Then, even when 'really' is standardly understood, there may yet be a sense in which 'Composites exist' is consistent with 'Composites don't really exist'. Consider what usually happens when we discuss works of fiction. While describing the Sherlock Holmes stories, it seems true to say 'Sherlock Holmes lived in Baker Street', even though we know that Holmes never *in fact* lived in Baker Street. We charitably interpret that sentence as abbreviating 'According to the Sherlock Holmes stories, Sherlock Holmes lived in Baker Street' (see Lewis, 1978: 37-8). Then, if we so wish, we may contrast this statement with how things are in actuality, by saying 'Sherlock Holmes didn't *really* live in Baker Street'.

In early work (2002), Cian Dorr suggests that ordinary talk of composites can be given a similar treatment; parallel to Hartry Field's treatment of number talk (1989: 2-5), and to Gideon Rosen's treatment of possible-worlds talk (1990, 1995). More specifically, Dorr suggests that an unpronounced 'according to the mereological fiction' prefix is ubiquitous in everyday discourse. Thus ordinary talk of composites is largely true, irrespective of whether nihilism is true. When ordinary speakers say, for instance, 'There are chairs', this abbreviates 'According to the mereological fiction, there are chairs'. And since, in fact, there are simples arranged chairwise, it is *thereby* true in the mereological fiction that there are chairs. In general, which sentences about ordinary composites are true in the mereological fiction systematically depends on how the simples are arranged in actuality, in the obvious way (cf. Walton, 1990, on 'principles of generation' for fictional truths). Meanwhile, in metaphysical discourse, wherein we discuss what is strictly and literally the case, we drop the tacit prefix altogether, sometimes signalling our metaphysical intent with 'really'. So, on this account, ordinary talk of composites is largely true, even if composites don't really exist.[15]

Such *semantic hermeneutic fictionalism* about composition is not a popular view among conciliatory nihilists. Even Dorr soon abandoned it (2005: 253-4), and it isn't hard to see why. The main problem is the following. In order to constantly qualify their talk of composites with a tacit fictive operator, ordinary speakers would need to have certain complex intentions, be they conscious or unconscious. And there is simply no good evidence that ordinary speakers have such intentions. So, given that simpler interpretations are *ceteris paribus* more plausible, we should refrain from ascribing such intentions to them. Semantic hermeneutic fictionalism about composition is therefore hopelessly psychologically implausible.

Dorr offers exactly one piece of evidence in favour of semantic hermeneutic fictionalism about composition. Ordinary speakers, he observes,

> treat the inference from 'There are some plates piled up' to 'There is a pile of plates' as if it were completely unproblematic, indeed valid. (2002: 21)

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[15] Dorr expresses indifference between this semantic view and an underdescribed 'pragmatic' variant. He also recommends revolutionary fictionalism about composition as a fallback. That is to say, even if we don't already tacitly prefix our talk of composites with a fictive operator, or intend it to be merely figurative, we *should*. See Dorr, 2002: §1.3; Rosen and Dorr, 2002: §9.

If we interpret these sentences as unprefixed, then, on Dorr's view, this inference is analytically invalid and metaphysically risky; so ordinary speakers are wrong to treat it as unproblematic. However, by hypothesis, the generation principles of the mereological fiction are commonly understood to license an inference from 'According to the mereological fiction, there are some plates piled up' to 'According to the mereological fiction, there is a pile of plates'. Thus, Dorr suggests, if we interpret ordinary speakers' sentences as tacitly prefixed in this way, we make better sense of their inferential behaviour.

However, even if the 'plates' inference is problematically metaphysically loaded when taken at face value, there is a simpler and far more plausible explanation of why ordinary speakers treat it as completely unproblematic. They haven't studied metaphysics, so they are unaware of the relevant philosophical problems (as discussed in section 1.4). End of story; and the end of our discussion of semantic hermeneutic fictionalism.

3.5 Fundamentalism

As it turns out, the conciliatory nihilists who say things like 'Composites exist, but not *really*' tend to use 'really' interchangeably with 'fundamentally' (see Dorr, 2005; Cameron, 2008a, 2008b, 2010a, 2010b; Williams, 2010, 2012; von Solodkoff, 2012, 2014; von Solodkoff and Woodward, 2013; Sider, 2013b: 761-2). So, given my aforementioned concern about 'really', their claim seems to me to be better expressed as 'Composites exist, but not *fundamentally*'.

The immediate worry now is that, thus formulated, we no longer have a view that deserves to be classified as a version of mereological nihilism. The most natural way to understand 'fundamentally' here is as a sentential operator that – whatever else it does – restricts quantification within its scope to 'fundamental entities', on some suitable construal of that predicate. And, while there is perhaps more than one legitimate way to understand 'fundamental entity' in metaphysical discourse, it seems that however it is disambiguated here, many if not most self-styled mereological realists will *already accept* that no composite is 'fundamental' in the specified sense (cf. Korman, forthcoming: 93-4). In which case, 'Composites do not fundamentally exist' fails to supply would-be nihilists with a suitably distinctive view.

On one construal, something is a fundamental entity just in case it is not *how it is* entirely because of how some other things are (see Fine, 2001; Rosen, 2010: 112). On another

construal, something is a fundamental entity just in case it has some fundamental property (see Hall, 2010; Heil, 2012: 3-4; Sider, 2013a: 252). (Beware: to say that something is a *fundamental property* is not yet to say that it is a *fundamental entity* in either sense. Likewise for other instances of '*x* is a fundamental *F*'.)[16]

On the first construal, 'No fundamental entity is composite' is already widely accepted by mereological realists; albeit with notable exceptions (see Maudlin, 1998; Schaffer, 2007, 2010a, 2010b). Likewise for the second construal, when adjoined to David Lewis's influential 'sparse' conception of fundamental properties (1983, 1986a, 1994a, 1994b). Indeed, Lewis, the paradigm mereological realist (1986a: 211-13; 1991), persistently defended the view that no actual composite is fundamental in either sense, despite not speaking in terms of 'fundamental entities' himself.[17] On Lewis's view of mereology, anything that is composed of some smaller things is how it is entirely because of how those other things are: 'Its character is exhausted by the character and relations of its parts' (1991: 80). And according to his central doctrine of Humean Supervenience, the fundamental monadic properties of our world are exclusively instantiated by spacetime points, or by point-sized occupants of those points. Setting aside views according to which such unextended physical objects have their fundamental properties *as parts*, they will presumably all be mereologically simple (see Lewis, 1986a: 63-9; 1986b, 1994a: 473-4; *pace* Paul, 2002, 2006, 2012).

Of course, unlike most self-styled nihilists, mereological realists like Lewis will tell you: 'Composites are real.' But that is just to say that composites exist, and perhaps also that they are mind-independent. It is not to say that they are fundamental in any relevant sense. To use 'real' as a synonym for 'fundamental' is highly misleading in this context: inevitably resulting in fallacies of equivocation and verbal disputes about what is 'real' (cf. Thomasson, 2007: 194-5). Moreover, it fosters the normatively objectionable idea that questions about the nature of nonfundamental phenomena are somehow unworthy of metaphysicians' professional attention. It should hardly need saying that, insofar as there are genuine puzzles in that area, they cannot be solved simply by labelling the relevant entities as 'derivative' or

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[16] These construals are not obviously extensionally equivalent, irrespective of ontological qualms about properties. For instance, platonists might take properties themselves to be 'fundamental entities' in the first sense, but not in the second. Notice also that 'fundamental' is sometimes just used as a synonym for 'mereologically simple'; see e.g. Toner, 2006: 552; Hall, 2010; Audi, 2012: 710; French, 2014: 176. Such usage is irrelevant here, though. If that was the restriction enforced by 'fundamentally', 'Composites do not fundamentally exist' would be too obvious to be worth saying. Cf. section 1.3, above.

[17] He came pretty close to speaking this way though; see his 2002.

'unreal' (see Merricks, 2013: §1; Barnes, 2014; Bennett, forthcoming: §4; Korman, forthcoming, ch. 6; *pace* Cameron, 2008a, 2008b, 2010a, 2010b).

Conciliatory nihilists of the fundamentalist school typically defend the distinctiveness of their position by denying that their utterances of 'Composites do not fundamentally exist' involve restricted quantification. It is a mistake, they say, to think of reality as containing both fundamental and nonfundamental entities, all of which have being. That would be to endorse an inflationary conception of fundamentality. Rather we should endorse a deflationary conception of fundamentality. We should understand the fundamentality operator as an expressive device that enables us to talk about the contents of reality directly. And, in reality, composites do not exist. They do not have being (see Cameron: 2008a: 7; 2008b: 303; 2010b: 250; Williams, 2010: 103-8; 2012: 169-71; von Solodkoff and Woodward, 2013: 566-8).

These authors are apparently equivocating. If to exist 'in reality' is just to exist, then of course all nonfundamental entities exist in reality. If, on the other hand, to exist 'in reality' is to be a fundamental entity, then of course no nonfundamental entities exist in reality. *Mutatis mutandis* for 'have being' (cf. Eklund, 2009: 321; Korman, forthcoming: 90). Judging by what these authors say, the distinction they draw between 'inflationary' and 'deflationary' conceptions of fundamentality is just a terminological illusion. Consequently, the impression remains (*pace* Williams, 2012: 183) that their conciliatory 'nihilism' is merely a rhetorically disguised version of mereological realism: a sheep in wolf's clothing.

Cian Dorr (2005) and Theodore Sider (2004, 2009, 2011, 2013a, 2014) put a superficially different spin on 'Composites do not fundamentally exist'. They suggest that 'fundamentally' should be understood here not as restricting quantification, but rather as modifying the meaning of 'exist'. Following Hilary Putnam (1987a, 1987b, 2004) and Eli Hirsch (2011), they propose that there are different concepts of existence associated with different principles of composition. However, unlike Putnam and Hirsch, Dorr and Sider claim that one of these concepts is metaphysically privileged, or *fundamental*. And while composites may 'exist' in the ordinary sense, they do not 'exist' in the fundamental sense (see also Cameron, 2008b, 2010a, 2010b). More precisely: 'Composites do not exist' is true in a reinterpreted version of English in which 'exist' is stipulated to express fundamental existential quantification.[18]

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[18] This is not Sider's final view, since he eventually admits 'composite' sets (their parts being their subsets) into his 'fundamental ontology', and furthermore identifies some of them with ordinary physical objects; as cited above in footnote 11. Elsewhere he calls his defence of nihilism

The obvious concern with this proposal is how to understand 'fundamental' quantification. It is tempting to understand it as ordinary quantification artificially restricted to things that are somehow fundamental in nature. But, as we have seen, that would not yield a view of composition that differs from standard versions of mereological realism. Moreover, Sider is adamant that his 'fundamental' quantification should *not* be so understood (2013a: 251-2). But then, it is up to him to explain *how else* we can understand the quantification in 'Composites do not exist' such that this sentence is consistent with the existence of composites; and so far he has not done this. Without further elaboration, Dorr and Sider's heavily qualified 'nihilism' appears to be just another terminological variant of the fairly commonplace idea that, although there are composites, none of them are fundamental entities.

Moreover, Dorr and Sider, like the other fundamentalists discussed here, concede that ordinary talk of parts and wholes, taken at face value, makes no relevant demands on the world. On their account, such talk requires nothing more for its strict and literal truth than suitably intrinsically propertied simples being appropriately arranged by ordinary standards (see Dorr, 2005: 247ff.; Cameron 2008a: 6-7; 2008b: 302; 2010a: 11-12; Williams, 2010: 106-8; 2012: 175; von Solodkoff, 2012: 392-3; Sider, 2013a: 250, 269). And, as I shall now argue, this concession undermines *any* version of nihilism.

Call two interpreted sentences *metaphysically equivalent* just in case neither requires anything of the world for its truth that the other does not.[19] Then, according to the cited authors, 'Some things compose a chair' is metaphysically equivalent to 'Some things are arranged chairwise' in ordinary English, once that language is supplemented with the expression 'arranged chairwise'. (Similarly to how, on van Inwagen's account, these sentences are metaphysically equivalent relative to ordinary contexts of utterance.) To this extent, the fundamentalists agree with their leading 'deflationist' opponents: Hirsch (2011) and Amie Thomasson (2007). Yet it is ordinary usage that establishes the meanings of 'part', 'whole' and 'compose'. Setting aside irrelevant quibbles over the reflexivity of parthood, these are not philosophical terms of art. So if ordinary talk of parts and wholes tracks a metaphysically insubstantial phenomenon, as is conceded here, then composition *just is* that

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'provisional', and concedes that his final ontological view is 'hard to categorize'; see his 2013b: 760, n. 12.

[19] For a gloss on the relevant notion of requiring, see section 2.1. *Pace* Miller (2005a, 2005b) and Rayo (2013: §2.2), metaphysical equivalence does not entail intensional equivalence, as shown by sentence pairs such as 'Grass is green' and 'Grass is actually green'. *Pace* Rayo, intensional equivalence does not entail metaphysical equivalence, as shown by pairs such as 'Grass is actually green' and 'Everything is self-identical'.

metaphysically insubstantial phenomenon (cf. Lewis, 1991: 80-7; Rayo, 2013: ch. 1). Thus, when nihilists conceive of many-one composition as metaphysically demanding, either they misunderstand its nature, or – if they abandon natural language by reinterpreting its mereological vocabulary – they crucially *change the subject* by artificially inflating the truth conditions of the relevant sentences (see Thomasson, 2007: 165-6, 193-4).

And there is no good reason to change the subject. If 'is a proper part of' just abbreviates the by hypothesis *nondefective* English expression 'is part of and not identical to', then there is no point whatsoever in reinterpreting it as *defective*; that is, as somehow conceptually incoherent, or as a failed natural kind term (*pace* Dorr, 2005: 270; Sider, 2013a: §1). Better to keep our regular mereological concepts; and then, if we wish to focus on how things are fundamentally, restrict our quantifiers accordingly. Thus interpreted, mereological predicates do not 'carve nature at the joints' (that is, they do not express fundamental relations), but to regard that as a *defect* would be to mistake their linguistic function for another. Indeed, regardless of whether talk of composites is ultimately dispensable, its utility is all too obvious (cf. Dorr, 2002: 22; 2005: 255; Sider, 2013a: 248-50). In this way, the conciliatory treatment of ordinary language proposed here undermines any version of 'mereological nihilism' worthy of that name.

3.6   Conclusion

Conciliatory nihilism looks hopeless. So what to do? By my reckoning, its advocates face a choice. There are two options.

The first option is to give up being conciliatory. Perhaps that wouldn't be so bad. The argument from charity against error-theoretic nihilism fails anyway, as I argued in section 1.4. And rather than seeing the Moorean objection as fatal, would-be nihilists could instead view it as a *challenge* to devise a compellingly valid argument for nihilism, such that each premise is more credible than the existence of composites. I doubt that any such argument is available, but who knows.

The second option is to give up being nihilists. Those attracted to conciliatory nihilism can hold onto their idea that ordinary talk of parts and wholes doesn't track anything

metaphysically deep; but then they should rather be *lightweight realists* about composition.[20] They should acknowledge that the genuine existence of composites requires nothing more of the world than simples being appropriately arranged by ordinary standards. And perhaps it requires even less than that.

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[20] I take this terminology from Chalmers (2009), with the following proviso. It is essential to lightweight realism about composition, as I use that label, that whenever some things are appropriately arranged, they compose something *as a matter of conceptual truth*; it is inessential to the view that composition is *easily known* to occur in such circumstances.

4

Analytic Truths of Mereology

4.1   Unrestricted Composition as an Analytic Truth

The principle of unrestricted composition can be formulated as:

(UC)   For any things, there is something they compose.

As the name suggests, the quantification here should be understood as unrestricted. So granting the existence of those objects countenanced by common sense, (UC) entails the further existence of many strange, arbitrary fusions: things that are part nose, part tower; things that are part trout, part turkey; and so on *ad nauseam*. Some philosophers find such arbitrary fusions unacceptable, and so reject (UC). However, many philosophers – so-called *universalists* – accept (UC) as a true sentence of ordinary English. And most universalists, myself included, regard it as necessarily true.[21]

One challenge we universalists face is to explain *why* (UC) is true; and if we take it to be necessarily true, *why* it is necessarily true. Indeed all theorists of composition face the challenge of explaining, rather than simply stating, the general principles they endorse. Here I offer a metalinguistic explanation. I claim that (UC) is necessarily true, in any context of utterance, entirely because of its meaning. With respect to any possible circumstance of evaluation, (UC) is derivable by the rules governing our mereological vocabulary; unobvious as those rules may be. So it is *analytic*; and, moreover, *analytically necessary*. And since it is analytic, it is metaphysically insubstantial (the implication I defended in chapter 2): it

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[21] A note on terminology. Peter van Inwagen (1990: 74) originally coined the label 'universalism' for the claim that necessarily, any material things have a fusion (or 'sum'). Here, like others, I use it for unrestricted composition *simpliciter*. Also I disregard van Inwagen's stipulation that 'the *x*s compose *y*' entails that no two of the *x*s overlap (1990: 28-9). Hence I do not distinguish *having a fusion* from *composing something*.

requires nothing of the world for its truth. (Here I assume: an interpreted sentence ϕ is analytic in a language L just in case ϕ is derivable by the rules of L. I take this construal of 'analytic' to fit its imperfectly coordinated philosophical usage well enough.)

This view of composition – *analytic universalism*, as Dan López de Sa (MS) calls it – is precedented but rarely advocated. David Lewis seemingly tends toward this view, though he does not explicitly endorse it (1991: 62, 79-87; *pace* Bennett, 2015). López de Sa offers a limited defence. Amie Thomasson defends a similar view (2007: §9.6, §10.3; 2015: §6.3), but apparently thinks that universalism becomes analytic only when technical terms such as 'fusion' or 'mereological sum' are introduced – at least she does not say, as I do, that it is analytic in ordinary English. Meanwhile, those who reject analytic universalism usually do so more or less peremptorily.[22] I find this surprising, for it seems to me that this view provides a satisfactory answer to the aforementioned explanatory challenge; and the usual objections to it, as I argue later, do not withstand scrutiny. Some philosophers, of course, are sceptical of analyticity in general; I shall not try here to persuade them to change their ways. Rather I address my arguments to those philosophers, numerous enough, who accept that there are analytic sentences, but do not count (UC) among them. In section 2, I argue that (UC) is analytic. In section 3, I reply to objections. Finally, in section 4, I show that, if the principles of weak supplementation and transitivity of parthood are also analytic, then so is the uniqueness of composition. Then classical mereology is analytic in full.

4.2   The Case for Analytic Universalism

The first step is to establish the analyticity of the following, weaker principle:

(SC)   For any standardly arranged things, there is something they compose.

Here I stipulate that some things are *standardly arranged* just in case together they are intrinsically structured and contrast with their surroundings in such a way that English

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[22] See Simons, 1987: 108-9; Rosen and Dorr, 2002: 154-5; Sider, 2003: 203; Rosen, 2006: 19; Cameron, 2007: 102-3; Bennett, 2009: 54-7; 2015: 254; Miller, 2009: 28-33; Schaffer, 2009: 360; Hofweber and Velleman, 2011: 46; Nolan, 2011: 327. For more sustained criticism, see Dorr, 2002: 6-10; Hirsch, 2011; Parsons, 2013.

speakers are typically disposed to unreflectively judge them to compose something. (So, for instance, any things that are arranged tablewise or chairwise are standardly arranged.)

The analyticity of (SC), I contend, can be straightforwardly inferred from ordinary linguistic practice, given plausible constraints on interpretation. For the rules of our language are determined by our linguistic practice; and according to our linguistic practice, the plural predicate 'compose something' is true of any standardly arranged things, and it is true of them *for no greater reason* than their being so arranged. On the face of it, nothing more is required for composition to occur, because there is nothing in our linguistic practice to yield a more demanding application condition for 'compose something' (cf. Thomasson, 2007: 156-7; Rayo, 2013: 31). And, in general, we shouldn't ascribe gratuitous complexity to the semantics of our language. So, applying together the interpretive virtues of *charity* and *simplicity* to everyday talk of parts and wholes, we should regard (SC) as analytic. (As I show later, there are clear counterexamples to alleged constraints on analyticity that might be adduced against this preliminary conclusion.)

Given this initial result, it seems that any genuine restriction on composition would have to be an analytic restriction. For if (SC) is analytic, then in paradigm cases, the metaphysical character of composition is utterly shallow. Our language permits us to collectively describe some things with a semantically singular term, hence they compose something. In such cases, composition has no deeper underlying nature. And if this is so, then very plausibly the same is true of composition in general. For to speak generally of composition is to generalise from paradigm cases. And if composition always has this superficial character, then any restriction on composition would presumably be an analytic restriction, reflecting a semantic restriction on our talk of composites.

Compare: there is an analytic restriction on bachelorhood because it is a rule of English that 'is a bachelor' applies only to unmarried males; and this rule obtains because there is a stable and coordinated practice among English speakers (with sufficient authority on the matter) of applying this predicate exclusively to unmarried males. Analogously, if there were an analytic restriction on composition, then there would have to be a rule of English such that, for any things, the predicate 'compose something' applied to them only if they collectively met some restrictive condition. And for such a rule to obtain, it seems, there would have to be a stable and coordinated practice among English speakers (at least among those with sufficient authority on the matter) of positing composites only when their putative parts met this restrictive condition. However, as I shall now argue, our talk of composites is

not conventionally restricted in this way; hence there is no analytic restriction on composition.

It seems that no subgroup of English speakers has any special authority on the issue of composition. Certainly metaphysicians are not usually deferred to on this matter, and they don't agree on it anyway. And in general, English speakers do not restrict their talk of composites in a stable or coordinated way. Rather they posit composites as and when they find it convenient to do so. And the types of composites that are convenient to speak of vary greatly between speakers and across time, depending on each speaker's interests and the circumstances of their utterances. Hence the disparate variety of composites for which we have common nouns in English: oceans, mountains, clouds, trees, buildings, roads, telephones, conferences, meals, people; to name a few. Of course, the arbitrary composites (or 'fusions') that exist according to universalists mostly go unmentioned. But it seems that to start speaking of a composite of a previously unacknowledged kind, we merely have to acquire sufficient interest in the arrangement of its parts.

Centuries ago, for instance, the solar system was unacknowledged, though the sun and most of the planets were. But when scientific advances increased the collective salience of our local star and its orbiting bodies, we found it convenient to start speaking of them as composing one *thing*; and few if any, I suppose, thought it illegitimate to do this. Similarly, a few odds and ends scattered around an art gallery are sometimes thought to compose an *artwork* by those who take an interest in such things; although to other speakers the same odds and ends might not seem worth speaking of as composing anything. Such is the *ad hoc* character of our talk of parts and wholes. We do not collectively limit our use of this linguistic device in any principled way. Rather we each exploit it as we like, according to our fickle and diverse communicative interests. So our talk of composites is not restricted by convention.

To see whether composition is *anyhow* analytically restricted, we must extrapolate the rules of our language from conventional usage, and see if the predicate 'compose something' is thereby restricted in its application. We should extrapolate the rules in the *simplest* way, just as any good linguist would. And by the simplest rules that fit our linguistic practice, 'compose something' has universal application. To ascribe any restriction or indeterminacy to the extension of this predicate would be to needlessly complicate the interpretation of our language.

Notice that by 'rules' I do not here mean regulative sentences, for many sentences of varying syntactic complexity can express the same rule. My appeals to simplicity may raise

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qualms in some readers, but I insist that there are absolute and objective distinctions of simplicity and complexity, however we account for them in our metaphysics. After all, it is surely intelligible that a elliptical orbit is absolutely and objectively simpler than a mess of epicycles; or that the intrinsic structure of a proton is absolutely and objectively simpler than that of the entire physical universe. If we have trouble accounting for such objective distinctions of simplicity and complexity, then that is a problem for us, not for the distinctions. If need be, we can take them as primitive.

Granted, worries about vagueness aside, it would fit our actual linguistic practice that there be some complex analytic restriction on composition, or that it be indeterminate whether composition occurs in extraordinary cases. Similarly it fits mathematical practice that '+' denotes *quaddition*: a function that mimics addition when the inputted numbers are each no bigger than those considered in actual practice, and yields the value 5 otherwise (see Kripke, 1982). Alternatively, we might think that '+' denotes a partial function that yields no answers beyond a certain limit. Nonetheless we interpret '+' as denoting addition, because we recognise that this is the objectively simplest way to extrapolate the denoted function from mathematical practice (see Lewis, 1983: 375-6; 1992: 109-10). Likewise we should interpret 'compose something' as having universal application, because this is the simplest way to extrapolate from our everyday talk of composites. So composition is analytically unrestricted.

4.3   Objections and Replies

Objection. Existence claims cannot be analytic.

Reply. (UC) is not an existence claim. It has only *conditional* existential consequences.

Objection. If the consequent of a conditional is an existence claim, then the conditional can be analytic only if the antecedent makes the same existence claim (see Dorr, 2002: §1.1; Sider, 2003: 203; Cameron, 2007: 102; Bennett, 2009: 54-7).

Reply. This alleged constraint on analyticity has counterexamples. As López de Sa (MS) points out, there are other mereological principles that seem clearly analytic despite violating

this alleged constraint via their logical consequences. The principle of *weak company* is one (cf. Simons, 1987: 26-7; Varzi, 2015: §3.1):

(WC)   Whenever something has a proper part, it has another.

Another is:

(O)   Two things overlap if and only if something is part of both of them.

And oddly, in a footnote (2009: 56, n. 23) Bennett provides a 'possible' counterexample to the constraint that she herself endorses:

(H)   If Bob is a husband, then someone else is his wife.

(Better to replace 'wife' with 'spouse', but never mind that.) Bennett then denies that this is a genuine counterexample:

> [T]he conditional is not genuinely existence-entailing in the troublesome sense. What is guaranteed is just that something has a certain property/instantiates the predicate 'wife' – not whether it exists at all. (*ibid.*)

But this response is clearly mistaken. If we say that someone is a wife, we *thereby* concede the existence of a wife (cf. Daly and Liggins, 2015: 164).

Other counterexamples are:

(A)   If someone is ambidextrous, then someone has hands.

(T)   If something is a triangle, then something has three sides.

(N)   If there is a number, there are infinitely many numbers.[23]

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[23] Hale and Wright (2009: 187-8) similarly argue by example that nontautological conditional existence claims can be analytic, as do Hofweber and Velleman (2011: 45-6). The latter coauthors nonetheless immediately dismiss analytic universalism, on the question-begging basis that mereological nihilism is 'coherent'.

Objection. Nontautological conditional existence claims such as (H) can be analytic because they are *nonampliative*. That is to say, the consequent is semantically built into the antecedent. But conditionals such as 'If there are particles arranged heapwise, there is a heap' and 'If *x* and *y* exist, the sum of *x* and *y* exists' are *ampliative*, and hence not plausibly analytic in ontological discourse (see Chalmers, 2009: 95-101).

Reply. As stated, this objection is rather obscure. What difference is there supposed to be between a conditional existence claim being *ampliative* and it being *nonanalytic*? If there is no difference, the objection begs the question. If there is a difference, we have not been told what it is. So, without further elaboration, David Chalmers's objection fails. That said, some of his remarks here, on the last page of the cited passage, suggest that he inchoately has in mind something like the argument of Josh Parsons (2013), to which I respond at the end of this section.

Objection. A sentence is analytic if and only if it is a logical truth or else can be transformed into a logical truth by substituting synonyms for synonyms. By this criterion, often attributed to Gottlob Frege (1884: §3), (O), (H), (A) and (T) are plausibly analytic, for the relevant expressions plausibly have suitable definitions. But (UC) is not analytic by this criterion, because its constituent expressions do not have suitable definitions (see Dorr, 2002: §1.1; 2005: 258-9; Rosen and Dorr, 2002: 154-5).

Reply. This criterion fails to provide a plausible necessary condition for analyticity. (To be fair to Frege, he is not clearly committed to the 'only if' in this criterion; cf. Boghossian, 1996: 366, 388-9, n. 12.) Indeed, (WC) and (N) both seemingly violate this criterion, as well as the alleged constraint considered above. Other counterexamples are: 'All red things are coloured', 'Whenever something is bigger than something else, the latter is smaller than the former', instances of 'If *P* because *Q*, then *P*', and instances of 'If *P* because *Q*, then *Q*'.

(Notice that both (UC) and (WC) would meet this Fregean criterion of analyticity if classical mereology were incorporated into logic. According to Cian Dorr (2005: 280, n. 38), Lewis favoured this option: 'In conversation, he maintained that it was a mere historical accident that Mereology was not counted as part of "logic"' (cf. Lewis, 1991: 62; Sider, 2015: §5). Indeed I see no obvious reason not to classify mereological predicates as logical,

other than to avoid further controversy about logic. But given that the Fregean criterion seems inadequate anyway, I needn't insist on this point.)

Objection. Analytic truths are trivial, i.e. obvious and dull. But even if true, universalism is not trivial. It is a substantial claim; unobvious and controversial (see Chalmers, 2009: 95-101; Bennett, 2015: §4).

Reply. Analytic truths are not all trivial – at least, not in the epistemic sense of being obvious and dull. It has long been established that if there are genuine analyticities, there are unobvious analyticities (cf. Lewis, 1989: 129-30). Indeed, discussion of this phenomenon goes back to Plato's *Meno*, and reemerged in the twentieth-century debate on the so-called 'paradox of analysis'. So it is surprising that it still escapes the attention of so many philosophers. Moreover, if all first-order logical truths count as analytic, then *a fortiori* all unobvious first-order logical truths will count as analytic.

That said, there is another, perhaps less commonplace sense of 'trivial' in which it is very plausible that all analytic truths of our language are trivial. In this sense, an interpreted sentence is trivial, or 'insubstantial', just in case it requires nothing of the world for its truth. (See section 2.1 above, where I briefly defended the intelligibility of this notion, appropriately understood; see also Rayo, 2013.) But to deny that (UC) is trivial in this metaphysical sense is clearly question-begging in the present context.

Objection. Unobvious analyticities are typically long, complicated and hard to understand. In contrast, (UC) is short, simple and easy to understand. So if it is analytic, how can its truth be so unobvious to competent speakers?

Reply. The rules of any natural language, I assume, are determined by patterns of usage in the relevant linguistic group. And these rules determine that certain sentences are analytic in that language. It does not follow that competent speakers are disposed to unreflectively accept all analytic sentences of their language within some limit of syntactic complexity. Granted, explicit knowledge of a semantic rule usually makes it obvious that a corresponding analyticity is true; for instance, explicit knowledge that 'is a bachelor' applies only to unmarried males makes it obvious that 'All bachelors are unmarried' is true. But explicit knowledge of even a fairly simple semantic rule can be elusive.

Indeed there are several reasons why a semantic rule, regardless of its complexity, may go unrecognised. It need not be obvious to any individual speaker what the general patterns of usage are in her linguistic group, or even what her own patterns of usage are; for even if she has access to the relevant data, she might not have collated it (cf. Daly and Liggins, 2015: 162-3). And even if she knows the patterns of usage in her group, it need not be obvious to her how, in general, semantic rules are determined; especially if she is not a philosopher or linguist who works on this issue. And even if she knows the patterns of usage in her group, and also knows how semantic rules are determined, it need not be obvious to her *which* semantic rules are determined by the patterns of usage in her group; for coming to know this may take some reflection and calculation. Some of these rules may be fairly simple, and manifest themselves in correspondingly simple analyticities. But even if a rule is simple, it may be far from obvious that it *is* a rule. So even simple analyticities can sometimes be unobvious.

Objection. Ordinary speakers do not acknowledge arbitrary fusions, and are mostly disposed to deny the existence of such things when explicitly challenged. So it is excessively uncharitable to interpret them as speaking a language in which (UC) is analytic. Even if such a language is possible, it is not the language of ordinary speakers, otherwise they would severely misunderstand their own language (see Hirsch, 2011).

Reply. As discussed in section 1.4, the principle of charity, properly understood, only requires us to refrain, *ceteris paribus*, from ascribing unreasonable attitudes to our subjects of interpretation. And we needn't ascribe any unreasonable attitudes to ordinary speakers by taking universalism to be analytic. The issue is epistemically nontrivial, and so can be reasonably misunderstood. Moreover, arbitrary fusions, taken as wholes, generally have no significance for ordinary speakers; so it is understandable that ordinary speakers habitually disregard them in perception. So we can charitably say that ordinary speakers are reasonable in their ignorance of universalism, even if it is analytic in their language.

Besides, as Hirsch himself concedes (2011: 175-6), charity is not the only constraint on interpretation. One constraint that has to somehow be balanced against the demands of charity is that, *ceteris paribus*, simpler interpretations are preferable (compare section 4.2 above). So even if my interpretation of ordinary language is somewhat uncharitable to those who, even after considering the relevant arguments, stubbornly insist that universalism is false, that is not enough to defeat my considerable advantage in interpretive simplicity.

Objection. (UC) and (WC) together logically entail that there are not exactly two things. (*Proof.* Suppose for *reductio* that there are exactly two things. By (UC), one of them is their fusion. Since they are not identical, the other is a proper part of the fusion. By (WC), the fusion has another proper part. So there are not exactly two things. Contradiction.) So if (UC) and (WC) are both analytic, it is conceptually impossible for there to be exactly two things in existence. Yet it is conceivable for there to be exactly two things in existence. So we should allow that this is conceptually possible (see Comesaña, 2008, for a similar argument against the necessity of universalism).

Reply. As discussed above, it is no mystery that we habitually ignore arbitrary fusions. And just as we do this in perception, we can do likewise in imagination. Hence we can conceive of there being exactly two things simply by imagining two disjoint things and ignoring their fusion. Indeed if we couldn't ignore fusions in this way, the truth of universalism would presumably be obvious. So I grant that it is *prima facie* conceivable – that is, conceivable in a weak and mundane sense – that exactly two things exist. But such weak conceivability is a far from perfect guide to conceptual possibility (see Lewis, 1986a: 90). Perhaps an ideal conceiver, at the height of her imaginary and reflective powers, could *not* conceive of there being exactly two things in existence (cf. Menzies, 1998; Chalmers, 2002; Rosen, 2006). But clearly, none of us are ideal conceivers, so it should come as no surprise that we are sometimes mistaken about what is conceptually possible.

Objection. Given that analyticity is closed under logical consequence, 'There are not exactly two things' is analytic on the present account. However, this sentence is free of mereological vocabulary. It can be expressed using only the vocabulary of first-order logic, and, thus formalised, it isn't a theorem of first-order logic. So it isn't guaranteed by its meaning to be true. So it isn't analytic (see Parsons, 2013: §4).

Reply. If we treat implicit quantifier domain restriction as a semantic phenomenon (as in Stanley and Szabó, 2000), then we should grant that 'There are not exactly two things' is not guaranteed by its meaning to be true in all contexts of utterance. For there are possible contexts where the domain of discourse includes exactly two disjoint things, while their fusion is excluded. That said, analytic universalists must say that 'There are not exactly two

things' is analytically guaranteed to be true in all contexts of unrestricted quantification. But how could this be so?

One answer, anticipated by Parsons, is that the very concept of unrestricted quantification is bound up with the concept of parthood; just as quantification in general is plausibly bound up with the concept of identity. So, in order to fully and explicitly understand unrestricted quantification, we have to appreciate that, for any two disjoint things, there is a third thing that has them as parts.

Parsons's response to this move is to allege that if we treat quantification and mereology as conceptually interdependent, then we must interpret talk of composites as disguised-plurals talk, and in particular interpret (UC) as synonymous with a tautology of plural first-order logic. In which case, analytic universalism turns out to be a disguised version of mereological nihilism.

However, as we already saw in section 3.2, semantic terminology aside, such extreme disguised-plurals 'nihilism' is indistinguishable from the view that both classical mereology and atomism are analytically true. Besides, I do not claim that atomism is analytic. So, *pace* Parsons, there is no danger of my view collapsing into some sophisticated version of mereological nihilism.

4.4   From Universalism to Uniqueness

If the analyticity of (UC) is accepted, then if we also take certain other, far less contentious mereological principles to be analytic, we can swiftly derive, as a further analytic truth, the uniqueness of composition:

For any things, there is at most one thing they compose.

To see this, consider the principles of weak supplementation and transitivity of parthood, and a certain corollary of any adequate definition of 'compose'; respectively:

(WS)   Whenever something is part of something else, part of the latter doesn't overlap the former.

(TP)   Whenever something is part of something, everything that has the latter as a part also has the former as a part.

(C)   Whenever some things compose something, each of them is part of it and every part of it overlaps at least one of them.

Both (WS) and (TP) have been disputed (for references, see Varzi, 2015: §§2.1, 3.1); while many others regard those principles as analytic. For present purposes, I shall simply assume that (WS), (TP) and (C) are indeed analytic. My proof of the analyticity of uniqueness shall therefore be conditional on this assumption. Also, we have our aforementioned definition of 'overlap', which we may stipulate for the sake of abbreviation:

(O)   Two things overlap if and only if something is part of both of them

Finally, let us assume the analyticity of (UC) and the closure of analyticity under logical consequence.

Now, to derive the analyticity of uniqueness from these assumptions, it suffices to demonstrate that (UC), (WS), (TP), (C) and (O) together logically entail uniqueness. And in fact, Juan Comesaña (2008: 33, n. 4) has already demonstrated this logical entailment, irrelevant terminological differences aside.[24] However, his proof, relegated to a footnote, has understandably received little attention. Anyhow, here I provide another.

> *Proof*. Suppose for *reductio* that some things, the Grains, compose at least two different things, Statue and Lump. By (UC), Statue and Lump compose something: call it Monster. Now, either Statue is identical to Monster or it isn't.
>
> First option: Statue is identical to Monster. Then since, by (C), Lump is part of Monster, it follows that Lump is part of Statue. Since Statue and Lump are not identical, it follows by (WS) that there is a part of Statue that doesn't overlap Lump: call it Antilump. Since Statue is composed of the Grains, it follows by (C) that Antilump overlaps a Grain. So, by (O), part of Antilump is part of a Grain. By (C),

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[24] Cf. footnote 21, above. From the same assumptions, Achille Varzi proves the weaker principle of extensionality, according to which no two composites have exactly the same proper parts; see his 2009. For the difference between uniqueness and extensionality, see his 2008: 110.

each Grain is part of Lump. So, by (TP), part of Antilump is part of Lump. So, by (O), Antilump overlaps Lump. Contradiction.

Second option: Statue is not identical to Monster. Then since, by (C), Statue is part of Monster, it follows by (WS) that there is a part of Monster that doesn't overlap Statue: call it Antistatue. By (C), every part of Monster overlaps either Statue or Lump. So since Antistatue doesn't overlap Statue, it overlaps Lump. So, by (O), part of Antistatue is part of Lump. By (C), every part of Lump overlaps a Grain. So part of Antistatue overlaps a Grain. So, by (O), part of part of Antistatue is part of a Grain. By (C), each Grain is part of Statue. So, by (TP), part of Antistatue is part of Statue. So, by (O), Antistatue overlaps Statue. Contradiction.

So, on my view, composition is also analytically unique. Indeed, given the assumptions listed at the start of this section, classical mereology is analytic in full.

4.5   Conclusion

I have given a positive argument for analytic universalism (and thereby provided a new argument for universalism *simpliciter*), and defended it from the most pressing objections. Finally I have shown that, given independently plausible assumptions, it follows that composition is analytically unique. No doubt further objections will be raised. I reserve those for later work. In the meantime, I hope to have established that my view of composition deserves to be taken seriously.

Some may find this view of composition disappointing. Never mind language, what does my view tell us about the nature of reality? Not much, I agree. On my view, composition leaves the nature of reality untouched. And it is in this sense, if any, that mereology – as the slogan has it – is *innocent*.

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