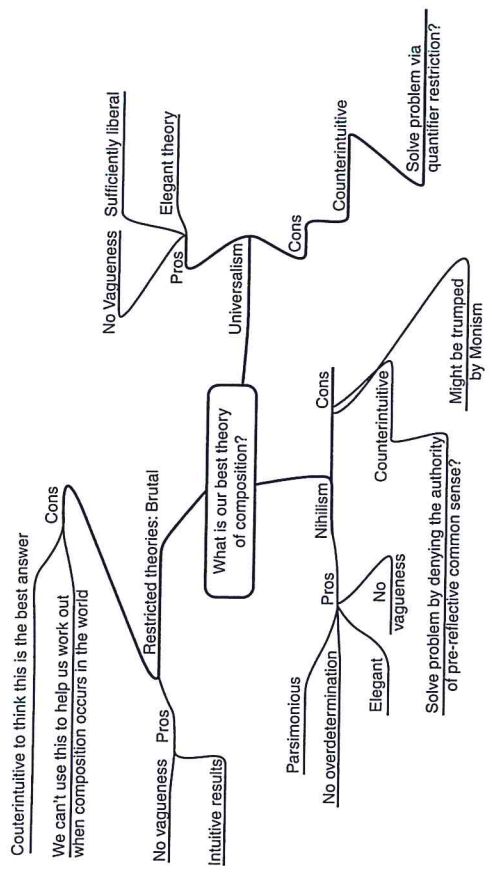


- 3) Both Nihilism and Universalism look to explain away our intuitions about when composition occurs: how successful do you think these strategies are?
- 4) A number of competing methodological considerations were raised in this chapter. What were they? How important did you think them?
- 5) Do you think that there is any connection between thinking and composition?
- 6) Do you think that the debate between Nihilism and Universalism is *substantive*?



Other Objects: 'Abstract' Objects

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Our topic in this chapter is abstract objects; in particular, numbers. Are there such things as numbers? If so, what sorts of entity are they? In part, this chapter also serves to introduce a number of types of argument. These arguments will play a prominent role in the chapters that follow. Before we look to see quite what sorts of things numbers might be, let's first consider why we might be tempted to believe in the existence of such things.

§3.1 As if by magic . . .

To begin with, consider the following sentences, paying particular attention to the underlined portions:

- (1) Jonathan is hungry.
- (2) The cat is sat on the mat.
- (3) The table is square.

Of course, Monism must deny, just as Nihilism did, that there are such things as people, chairs etc. So in precisely the same way that we saw that Nihilism does violence to our intuitions, so too does Monism. But that argument is only of tangential interest at this point in the dialectic. The claim made by the Monist is not that Monism is *right*, but that if you're persuaded by the virtues of Nihilism then you should be persuaded to take a further step and endorse Monism. Whether you then also think this only trivially interesting, perhaps because you *do* think that both Nihilism and Monism are ruled out by simple consideration of our intuitions, is something to be decided elsewhere.

§2.7 Really a debate?

So how are we to decide what the best answer is to the SCQ? A number of considerations have already been raised: vagueness, intuitions as to how conservative or liberal our ontology ought to be, concerns over criteria being *ad hoc*, and we've also raised concerns as to whether or not consideration of the putative causal powers of objects has any role to play in determining which composite objects we ought to endorse.

But there might remain a suspicion that the various different positions that we've been surveying aren't, in fact, substantive metaphysical positions, and that the disagreement that seems to have been going on here is a disagreement about the way that we should use language, not a disagreement about the nature of the world. For example, compare the Nihilist and the Universalist positions. Both positions are compatible with the existence of simples (objects that themselves lack parts). Further, the proponent of Nihilism allows that there are collections of simples arranged (e.g.) table-wise. The difference between that view and the view that those simples compose a table *simply by existing* (Universalism) seems to be nothing more than a matter of what we *say* is required for composition. Universalism says that all that you need to do to be a part of something else is to exist; Nihilism, denies that this is sufficient for being a part. So, isn't this really a debate about the meanings of the word 'part' and 'exist'?

It's hard to see how to resolve this issue. What is certain, however, is that proponents of the views sincerely believe themselves to be having a substantive argument. The Nihilist and Universalist really do think that they are arguing about the existence of composite objects; they do not take themselves to be arguing merely about how we do and should use the words 'part' and 'exist'. If we are

then sceptical about their debate and whether or not it is a debate that cuts to the heart of a metaphysical issue, then we must find a good argument that shows our opponent that they are *not* engaged in a substantive debate. Our doubts that the debate is genuine are not sufficient. If we are to convince our opponent that there is no genuine debate going on then we owe some argument.

Recommended reading

General

Van Inwagen, P. 1990. *Material Beings*. Cornell: Ithaca.

Universalism

Lewis, D. 1986a. *On the Plurality of Worlds*. Oxford: Blackwell, 211–13.

Van Cleve, J. 2008. 'The Moon and Sixpence: A Defence of Mereological Universalism', in Sider, T., Hawthorne, J. and Zimmerman, D. eds. *Contemporary Debates in Metaphysics*, 321–40.

Van Inwagen, P. 1990. *Material Beings*. Cornell: Ithaca, 74–80.

Restricted theories of composition

Markosian, N. 1998. 'Brutal Composition', *Philosophical Studies*, 92, 211–49.

Markosian, N. 2008. 'Restricted Composition', in Sider, T., Hawthorne, J. and Zimmerman, D. eds. *Contemporary Debates in Metaphysics*, 341–63.

Nihilism

Rosen, G. and Dorr, D. 2002. 'Composition as Fiction', in Gale, R. ed. *The Blackwell Guide to Metaphysics*. Oxford: Blackwell, 151–74.

Schaffer, J. 2007. 'From Nihilism to Monism', *Australasian Journal of Philosophy*, 85, 175–91.

Williams, R. 2006. 'Illusions of Gunk', *Philosophical Perspectives*, 20, 493–513.

Organicism (and similar)

Merricks, T. 2003. *Objects and Persons*. Oxford: OUP.

Van Inwagen, P. 1990. *Material Beings*. Cornell: Ithaca, chapter 9 onwards.

Really a debate?

Hirsch, E. 2002a. 'Against Revisionary Ontology', *Philosophical Topics*, 30, 103–27.

Hirsch, E. 2002b. 'Quantifier Variance and Realism', *Philosophical Issues*, 12, 51–73.

Sider, T. 2009b. 'Ontological Realism', in Chalmers, D., Manley, D. and Wasserman, R. eds. *Metametaphysics* Oxford: OUP, 384–423.

Study questions

- 1) Write out each of the main theories of composition. Which theory do you think is best? What made you pick that theory?
- 2) Do you think it matters whether a view is too liberal/too conservative? Explain your answer.

Two points are worth making, however. First, Van Inwagen's argument against the Nihilist looks like it fails; second, it's opaque as to what Van Inwagen's view really entails.

Van Inwagen's argument against the Nihilist proceeds via an examination of Searle's Chinese Room thought experiment. Suppose that an English monoglot is placed in a sealed room with a collection of Chinese ciphers and a manual: the manual tells our English monoglot which ciphers to respond with when given Chinese ciphers. Our native English speaker then has various Chinese ciphers fed into the room and then, as per the instructions, proceeds to feed various Chinese ciphers out of the room. The (not uncontroversial) Searlean conclusion is that this system of inputs and outputs fails to display what we would think of as understanding, and so no model of mind that treats thinking as mere 'inputs and outputs' can be correct. There must be more to thought than these mere inputs and outputs.

Van Inwagen claims, though, that we can put this case to other work. Since what we have in the Chinese Room case is clearly a case of co-operative activity, but not also an instance of thought, so we can conclude that *mere* co-operative activity is insufficient for thought. The Nihilist only has mereological simples in their ontology, and would be forced to describe thought as a mere co-operative activity of many distinct simples. Thus, Nihilism is false and there are composite objects – thinking objects.

But, at least as far as it goes, the argument fails since it looks to draw a general conclusion from a specific instance. That is, Van Inwagen infers that *no* instance of co-operative behaviour is sufficient for thought simply because *an* instance of co-operative behaviour is insufficient for thought. Since generalizations from singular instances aren't valid, so Van Inwagen's argument has less force than it might initially appear.

But even if the argument did have some force, Van Inwagen's view is less clear than we might like. For instance, what, exactly, is it for the activity of some simples to constitute a life? How is it that simply by thinking occurring, composition occurs? On this last point, consider the following case, that seems highly counterintuitive. Suppose that Smith is in an extremely serious car accident and suffers severe neurological injuries, to the extent that in the operating room, Smith's neurological activity occasionally ceases, though is then re-started. In such a case, it looks very much as if the object we might refer to as Smith is going out of and coming back into existence. Not only that, but we go from there being a composite object one second, to it ceasing to exist, to it

returning to existence, from one moment to the next. That appears strange. Somehow we are obliged to say that Smith is constantly drifting in and out of existence, despite the fact that to all intents and purposes it seems to us as if Smith is continuing to exist all along.

§2.6 Monism

If we were tempted to believe in Nihilism, then there's plausibly another view that might be even more appealing: Monism. For the purposes of this chapter, at least, Monism is the view that there exists only *one* material object – the world.⁶ (I should make clear, here, that when philosophers talk of 'the world' they typically mean something like 'this universe'.)

Why might we think that Monism is preferable to Nihilism? Two reasons appear salient. First, it looks to be an empirically open hypothesis that the world is such that there is infinite descent – that is, there is no lowest level. So, even the 'fundamental' particles that we fixed upon earlier are not simples. If that were to be the case, then the Nihilist is in trouble. How can there exist *only* simples if there is no 'bottom level' at which the simples might reside? If the picture just sketched is correct then Nihilism is false because there is no level at which the simples may reside. The Monist, in contrast, has no problem here. According to the Monist, it will *appear* to us that the world can be divided in such a way as to permit infinite descent: but that doesn't mean that the world has many *parts* (for if there were parts then these would be objects, and then more things than just the world would exist). But, the Monist thinks, merely that we can point to different areas of 'the World' does not show that these are *parts*. Indeed, since there is only one object, there *are* no parts. One way to try and conceptualize this is to think of a photograph. We can specify from the outset that this picture has no parts. However, it is nonetheless true that we can imagine keeping on zooming in on some particular area of the picture and finding more and more detail. Indeed, we could keep zooming in *forever* and still keep finding more detail.

Second, the Monist might claim that their view takes parsimony more seriously than does Nihilism. After all, the Nihilist posits a whole world of simples. By contrast, the Monist posits *only* a single concrete object – the world. Thus, Monism fares better than Nihilism given considerations of parsimony.

One further argument can be brought forward in favour of Nihilism – though it is certainly controversial. Consider a cricket ball: if that entity exists, then it is composed of a collection of particles. Now suppose that, as seems probable, the physical explanation of the flight and behaviour of the ball can be explained completely by explaining and describing the behaviour of the sub-atomic particles that compose the ball. Add to our case a window. Similarly, the window is composed of a collection of sub-atomic particles and a description and explanation of the behaviour of the window requires *nothing* other than a complete description and explanation of the behaviour of the sub-atomic particles that compose the window.

With the context described, now consider how we should think about what happens when the ball strikes the window. A natural thought is that the ball causes the window to break. However, if there is nothing to describing and explaining the behaviour of both ball and window over and above a description of what happens at the micro level, then it looks as if all of the causal work that will be done at the micro level in our scenario. That is, the sub-atomic particles that compose the ball behave in a particular way; the sub-atomic particles that compose the window behave in a particular way *and that's it*. There is nothing more to be said. If we also thought that the ball and the window were genuinely involved in the case then, as well as the sub-atomic particles causing other sub-atomic particles to behave in a given way, we'd *also* have the ball causing the window to break. This would leave us with the ball causing the window to break *and* one set of sub-atomic particles causing another set of sub-atomic particles to behave in a particular way. Now that seems odd.

In fact, it seems more than odd. It seems that the ball and window would, if they existed, 'overdetermine' the outcome: the behaviour of both the particles and the ball and window seem to account for the outcome. Now, if the particles are doing all of the work, then it seems that the ball and window have no real part to play in the scenario. And if that turned out to be true, if we had no role for window and ball to play, and so no reason, presumably, to think that they exist, then it would look to be a violation of OR for us to posit the ball and window in addition to the sub-atomic particles. We might then argue that this favours Nihilism. According to Nihilism, there is nothing other than the mereological simples. There is no ball; there is no window. All that we have are the elementary particles that lack parts.

This will be where Nihilism can make gains. Since Nihilism posits no composite objects, so Nihilism will never entail that there is over-determination

and, if that is the case, then Nihilism is *obviously* preferable to other theories of composition.⁴

This leads us on to the other question: how do we deal with the charge that the view proposed is deeply counterintuitive and defies common sense? To an extent, this is a charge that must be met head-on. The view just is counter-intuitive. However, the charge can be mitigated. Metaphysicians are typically prepared to allow that, all things being equal, it is preferable for our best theory to be one that is intuitive. But, even then, we do not want to cling dogmatically to our intuitions. After all intuitions are often fickle things affected by the media, gender, race and so on. There is more to metaphysics than simply asserting your preferred view and declaring it to be intuitive.

With that in mind, consider two sentences.

- (a) There is a table in my office.
- (b) There are simples arranged table-wise in my office.

The point we must then concede is that although unreflective commonsense favours (a), it is equally clear that (b) has never occurred to us (outside our theorizing at any rate). We surely cannot rule out (b) on the grounds that it's counterintuitive if we've never given it a moment's thought before. Clearly, what is needed is time and space for reflection. Nihilists will then claim that, once we have given this some deeper thought, it is far from clear that (a) is obviously true and (b) obviously false. Our intuitions, once better informed, will not tell between the two – or so claims the Nihilist (cf. Rosen and Dorr (2002: 158)).⁵

\$2.5 Organicism

Van Inwagen claims that we do have reason to think that there are composite objects. Thinking cannot occur without composition. Van Inwagen's claim is that there must be at least some composite objects because a mere collection of objects can never think. That is, a collection of simples arranged person-wise is not a collection that is capable of thinking. This, Van Inwagen thinks, motivates a move to Organicism.

Organicism: necessarily, for any *xs*, the *xs* compose, iff their activity constitutes a life.⁵

such that there exist some fundamental particles that have no parts, but nothing else.

Clearly, *Nihilism* is counterintuitive. Intuitively true propositions like <there is a table> turn out, on this view, to be false. So, like the proponent of *Universalism*, the Nihilist must take some steps to explain away the counterintuitiveness of their position. In fact, things are perhaps worse for the Nihilist than they are for the Universalist. Whereas the Universalist had to explain the truth of propositions that we typically don't think about (e.g. <this is a pen-table>), the Nihilist has to explain to us why the propositions about which we seem *most certain* (such as <this is a table>) are, in fact, false.

But other challenges abound, too. Nihilism might, at first blush, seem to be at odds with our best physics. For example, physicists study the earth; they study atoms. Both the earth and atoms look to be composite objects and so if Nihilism denies that there are composite objects, then parts of physics dealing with these topics will be mere elaborate fiction. That would be a highly controversial result.

The Nihilist thinks that they have a response to both points. To begin with, although they think that propositions like <this is a table> are false, the Nihilist doesn't deny that sentences such as 'this is a table' are warranted, even though they expresses a false proposition. According to the Nihilist, the world is arranged in a particular sort of way, and it is due to that arrangement of the world that it is *appropriate* for us to say 'there is a table', even if it is strictly speaking false. Thus, although our talk about tables and other composite objects lacks truth-makers and so is false, the intuitive pull of our talk is explained by the fact that some very similar proposition *is* true.

Here is the Nihilist's explanation in more detail. There are no composite objects, but there are mereological simples (objects with no parts) arranged in particular ways. In the case of the table we might say that although <there is a table> lacks a truth-maker, the very similar proposition <there is a collection of simples arranged table-wise> has a truth-maker: namely, a particular arrangement of simples arranged table-wise. Because we don't *typically* think of there as being a distinction between the two propositions (<there is a table>, <there is a collection of simples arranged table-wise>) so we think of the first being true, where, in fact, only the second proposition is true.

The Nihilist thinks that they can use this pattern of explanation to make sense of the putative objection from science, too. Nothing in our best science,

they will contend, requires that here be any such *thing* as a 'composite object'; instead, our best physics can be understood as compatible with the view that there are no composite objects, there are merely simples arranged object-wise.

Thus the Nihilist is even able to offer us the following canonical re-interpretation of our physical theories:

- (i) replacing every occurrence of 'there is something which' with 'there are some things which'
- (ii) replacing every occurrence of 'for every thing' with 'whenever there are some things'
- (iii) replacing every occurrence of 'is part of' with 'are among' (the xs are among the ys iff whenever something is one of the xs, it is one of the ys)
- (iv) replacing every occurrence of 'is identical to' with 'are the same things as' (the xs are the same things as the ys iff for any thing, it is one of the xs iff it is one of the ys)
- (v) replacing every singular predicate in the theory with a new plural predicate. Thus, 'is a molecule' is replaced by 'are arranged molecule-wise', 'has mass M' is replaced by 'have mass M'. (Rosen and Dorr (2002: 163))

All of which is well and good, but the Nihilist then owes us at least two further arguments. First, although they might have told us how our everyday talk about composite objects comes to be thought of as true, even if it is not, and they may have circumvented the arguments from physics, they haven't yet spoken directly to the concern that their theory is deeply unintuitive. Second, given that the view seems so counterintuitive, without some strong motivation to believe it we might well think that we ought to not endorse Nihilism. Motivation thus becomes a pressing issue.

Let's begin with considerations of motivation. Why might we be tempted by Nihilism? Three reasons are prominent, here. First, there is no vagueness in Nihilistic worlds because there are no composite objects about which it might then be a vague matter as to whether or not some x is a part of that object. Second, the theory is extremely elegant; not only that, but it also scores highly when we think about ontological parsimony. It's hard to conceive of a simpler theory than one that posits nothing other than mereological simples. Third, we might reasonably argue that, in the face of none of the other answers to the SCQ looking that appealing, Nihilism begins to seem a reasonable option.

was concerned with the thought that height dictated handedness, such that short people are left-handed and tall people are right-handed. In order to prove their thesis to us they ask us to conceive of a sequence much like the one described, where the first hundred or so people are left-handed and the last hundred or so are right-handed. They then argue that *at some point* there will have to be a sharp cut-off between those people who are right-handed and those that are left-handed. But, they say, this is clearly implausible since the people will resemble one another so closely: the cut-off will simply be arbitrary. Clearly, this is a bad argument: in part, it's a bad argument because it treats height as a determining factor in handedness, and then tries to show that once we've endorsed that assumption, there's no way to generate a distinction as to where in the scale right-handedness kicks in: that is, there's no obvious reason to think that any particular height generates right-handed people. But, of course, the argument is bad precisely *because* there is no connection between height and handedness. Thus, although any cut-off would be arbitrary, that fact is in and of itself uninteresting. What we must now do is tie this in to the case of composition.

Markosian's thought is that the case of height and handedness is just the same as the case of composition. The continuum argument seems appealing because we're *tempted* to think that composition has something to do with how closely the cases resemble one another with respect to some quality or other (perhaps contact, or fastenation). But once we recognize that there is no such connection (between e.g. contact or fastenation and composition), we ought to recognize that there's *no* problem in drawing a sharp cut-off in the sequence. There just is no connection between the facts of composition and the facts of contact or fastening, any more than there is a connection between height and handedness.

Another objection that we might put to the proponent of BC is that positing Brute metaphysics is to do *bad* metaphysics. We are, after all, at least to some extent in the business of explaining the world; positing primitives does nothing to explain anything.

But if we're going to push that line, then we need to be careful. As indicated in the passage from Sider, quoted above, *all* theories will need *some* metaphysical primitives. And, if all positions need some primitives, then it hardly seems fair to Markosian to object that his theory posits some primitives.

Perhaps the most obvious way to argue against Markosian is to look at the wider shape of the arguments that we have been considering. We allowed, above, that it was a virtue of Markosian's view that it helped us to preserve

our intuitions about when composition occurs and when it does not. We said, in the introduction, that intuition preservation is a theoretical virtue. But the critic of BC might reasonably respond that this isn't the *only* intuition in the neighbourhood that might be worth considering. When we asked the SCQ we had the intuition that it could be answered. The SCQ *sounds*, intuitively, like the sort of question to which there ought to be informative answer that can be written down. Since Markosian is denying that there *is* an answer of this sort, so Markosian's view *in fact* fails to preserve some of our intuitions.

Of course, there is scope for a reply here: perhaps Markosian can say that he isn't interested in intuition preservation *in general*, only in particular cases. Although such a reply might work, we might then need to be told why to hold this form of particularism about intuitions. It's not entirely clear how we would provide such an explanation.

Markosian might, instead, say that intuition preservation *in general* is good, but since our inability to answer the SCQ points to the fact that the SCQ *can't* be answered, so BC is the best way to preserve at least *some* of our intuitions. This latter approach will depend upon whether or not other solutions turn out to be viable. One might be sceptical, though, since we've already seen that *Universalism* looks at least coherent. In any case, it will pay dividends to turn, once more, to another competing answer to the SCQ.

§2.4 Nihilism

In the same way that *Universalism* might be seen to be the liberal extreme, endorsing the existence of a plethora of hitherto unconceived of objects, *Nihilism* represents the conservative extreme:

Nihilism: Necessarily, for any non-overlapping *xs* there is an object composed of the *xs*, iff there is only one of the *xs*.

In less precise, though more colourful, language, the only objects that exist are mereological simples – those objects that lack parts. It is not clear what these will be, but perhaps we can simply describe them as the most fundamental particles. Our current best candidates may be quarks.

Granting the (seemingly) plausible assumption that tables, people, atoms and the like would have parts if they existed, so tables, people, atoms and the like do not exist. Indeed, it seems as if the *Nihilist's* view of reality will be

explanation of this – according to the proponent of BC – is that composition in fact occurs. *Why* is there composition in those cases? There is no reason; it's just a brute fact that there's composition in these cases.

Second, the proponent of BC might think that they can solve particular historical problems that have been raised. For instance, suppose that we have a cat called Tibbles, and that we identify some part of Tibbles as Tib: let's say that Tib consists in Tibbles, minus her tail. Thus, at some time *t*, Tibbles and Tib are distinct. However, suppose that at some later time, *t**, Tibbles loses her tail, such that Tibbles and Tib become identical. If that turned out to be the case then, since identity is transitive, Tibbles and Tib ought to be the same thing as each other today – which is clearly an absurd result.

(A little more slowly: Tibbles at *t* is identical with Tibbles at *t**; Tibbles at *t** is identical with Tib at *t**. But if Tibbles at *t* is identical with Tibbles at *t** then Tibbles at *t* is also identical with Tib at *t**. And since Tib at *t** is identical with Tib at *t*, so Tibbles at *t* is identical with Tib at *t*. But that's wrong. Tibbles at *t* has a tail and Tib at *t* does not.)

Although there are many different solutions to this problem, it seems clear that BC offers us a straightforward time of it. I take it that, prior to my stipulation to the contrary, there was no temptation to think of Tib as a thing at all. In other words, Tib was not, according to our intuitions, an object. That being the case, there was no *thing* Tib, prior to *t**, since there was no such thing that was composed out of the various parts of Tibbles, prior to the removal of Tibbles' tail. Since Tib didn't exist prior to *t**, so there existed no such thing, Tib, with which Tibbles might be identical at *t*.

Third, it's also worth noting that BC is consistent with there not being vague objects in the world. We saw above that this was an advantage of *Universalism*: so, too, it must then be an advantage of BC. Is the particle at the end of your nose a part of you? If we thought BC correct, then we would surely concede that we do not know whether or not such a particle is a part of you. But, if BC is true, our *knowledge* of whether or not the particle is a part of you does not matter. The infinitely long list stipulated by BC will specify that the particle is a part of you, or it is not. It is not, therefore, a genuinely vague matter as to whether or not the particle is a part of you. This is the result that we were looking for.

S2.3.1 Brutal problems

But BC suffers from problems too. To begin, let's look at an objection raised by Ted Sider. Consider, first, a case in which my body exists – C1. Now consider

another case, C2, which consists of my post-cremation body's ashes scattered to the wind. Clearly, in C1, we want to say that my body is composed; equally clearly, in C2, we want to say that my body is not composed. Sider's thought, then, is that we can construct a sequence of cases connecting C1 to C2, within which each case is extremely similar to each case either side of it. Since we *do* have composition in C1, but not in C2, there must be some point in the series from C1 to C2 at which composition ceases to occur. The worry, then, is that the sequence of cases from C1 to C2 can be expanded so that the cases resemble one another *so* precisely at any particular point that it will appear arbitrary as to where we should say that composition is no more. As Sider has it:

Why is the cut-off here, rather than there? Granted, everyone must admit some metaphysically 'brute' facts, and it is a hard question why one brute fact seems more or less plausible than another. Nevertheless, *this* brute fact seems particularly hard to stomach. (Sider 2001: 124)

Our concern then will be this. At some point in the continuum of cases between C1 and C2 we must specify that composition occurs in one case, but does not occur in the next. But given how closely these cases will resemble one another, it is 'hard to stomach' the idea that one of these states counts as composition, but the next one does not.

What to say in reply? Markosian puts the plausibility of this argument (what he calls the 'continuum' argument) down to the assumption that the qualitative resemblance between the various cases has, or ought to have, some impact on whether-or-not objects compose. So, the thought might be, because the various instances of C will differ only *slightly* with respect to some condition such as contact, so to suppose that one of these cases is sufficient for there to be composition, but not another, *would* be arbitrary.

Markosian aims to show that Sider's reasoning is faulty. To illustrate, he considers the following type of case that is not quite the same but reveals to us the way in which Sider's reasoning has gone astray. Suppose we construct a series of cases that resemble one another *almost* precisely at each point in the sequence, but such that there is a good variation in the series – perhaps a series of people who differ only minutely with respect to their height. To add colour to the case, suppose that there are, in fact, 1,000 people in this series. With this series in mind, suppose we were then presented with someone who

need to talk about such a thing in such a way that we couldn't simply talk about there being both a pen and a table? Not very often at all. And so it is that we have come to believe that there are no such things.

In slightly more formal terms the idea is fleshed out by the claim that, in natural languages like English, we implicitly 'restrict our quantifiers'. Thus, the claim is that when we talk to one another using English, outside the philosophy class, we have already tacitly agreed to certain standards of use, such that the term 'exists' applies to tables, chairs and so on, but not to pen-tables, or other similarly gruesome objects.

There's a temptation to think such moves as underhand and a bit sneaky, but clearly English conversation does function in this way to at least some degree. We have conventions in place to ignore objects when we're assessing the truth of particular propositions. Consider, for instance, someone who says that 'it's raining'. Clearly, that person doesn't mean that every inch of the earth's surface is being rained upon; rather, they mean that some particular location is being rained upon. Likewise, if a cinema go-er remarks that 'everyone was eating popcorn' we would typically suppose that the context of the utterance in some way contributes to the truth-conditions of the utterance, such that for us to regard the claim to be true we would require nothing more than that everyone in the *cinema* was eating popcorn. In both the case of the rain and the popcorn what we have is an instance of context contributing to the truth-conditions of the sentence; context contributes to whether or not the sentence is true.

What the *Universalist* is drawing upon is precisely the same phenomena. They are claiming that our use of 'object' or 'exist' is restricted by the fact that when most of us use such language we are specifically ignoring all of these strange objects, such as pen-tables. But, once we remove these restrictions, the claim that 'there are no pen-tables' turns out to be false (in the same way that if we removed the implicit restriction to talking about only people in the cinema, the claim 'everyone was eating popcorn' would turn out to be false). We might then add to this the further claim that since we so rarely move beyond the context in which we agree that there are no such things as pen-tables (indeed, the only context in which we might be tempted to do such a thing is the context in which we engage in metaphysical theorizing), we've become very used to thinking that pen-tables are not objects. So used to it, in fact, that it's become a habit. And habits can be hard to kick. All of this being the case, we have a perfectly reasonable explanation as to why we might be tempted to think that Universalism is *obviously* false, even if it's not.

The shape of the dialectic here bears some thinking about. We began this chapter with the assumption that there were many different sorts of answer one could give to the SCQ; we've considered *Universalism* and although the theory seems motivated by sensible considerations and can deal with at least our intuitive worries about it, there remains the impression that *Universalism* is an extreme answer to the SCQ. If nothing else, Universalism posits *so many* different objects that it must do at least some violence to Ockham's razor, even if the objects posited are all of a kind with one another.

Perhaps what we should agree upon, then, is that Universalism seems internally coherent, and although it has some motivation, we might do well to see if other theories can generate better answers to the SCQ since *Universalism* seems like an extreme metaphysical position. It requires us to posit a very large number of objects – objects that we do not, at least intuitively, believe in.

§2.3 Restricted theories of composition

If we're to avoid the rock of excessive conservatism and the hard place of excessive liberalism, we need a middle ground. We need to find an answer to the SCQ that includes objects such as tables, chairs and cups; but not pen-tables, Eiffel-tower dolphins and their gruesome fellows. One attempted answer to the question is due to Ned Markosian. His 'Brutal' view of composition is just this:

Brutal Composition: There is no true, non-trivial, and finitely long answer to the SCQ. (Markosian (2008: 352))

Here is Markosian's explanation of the view:

Suppose that there is no rhyme or reason as to when composition occurs and when it doesn't, as the view in question suggests. There could still be a truth of the form 'Necessarily, for any *xs*, there is an object composed of the *xs* iff –'. It would just have to be an infinitely long list of every possible situation involving some *xs* that compose a further object. (*op cit*)

Why believe that composition is Brutal? First, it's worth noting that the view accords with our intuitions (or, at least, it's plausible to think that it does). In any situation where we *think* that composition occurs, the most likely

Let's begin our consideration of Universalism by setting to one side the intuitive reaction that Universalism is *obviously* false (though we'll return to this later). Why might one be tempted to think Universalism is true? First, *Universalism* doesn't suffer from any problems of conservativeness: that is, it doesn't rule out the existence of any of the objects we wanted in our ontology. Given that we raised this as a problem for both *Contact* and *Fastenation*, this is surely a virtue of Universalism.

Second, Universalism permits us to provide definite answers to other difficult questions. In particular, Universalism helps us with the issue of vagueness. Consider the example of the chair with which we began this chapter. It seems quite plausible that there will be a particle that exists *right* at the boundary of the chair. Is the particle a part of the chair? If that particle is *right* at the very edge of the chair – right at the boundary between the chair and its surroundings – then it might seem as if there really is no answer to this question. It is, to use some philosophical parlance, we may say genuinely vague as to whether or not the particle is a part of the chair.

But vagueness in the world is, to many metaphysicians, not acceptable. There is always a fact of the matter. Either the particle is a part of the chair, or it is not. It cannot be a vague matter as to whether or not the particle is a part of the chair. It will not do to say that it is *genuinely* vague as to whether or not the particle is a part of a composite object. Thus, Lewis (1986a: 212)

The only intelligible account of vagueness locates it in our thought and language. The reason it's vague where the outback begins is not that there's this thing, the outback, with imprecise borders; rather there are many things, with different borders, and nobody has been fool enough to try to enforce a choice of one of them as the official referent of the word 'outback'.

It had better not turn out, then, that there is genuine vagueness in the world.

Happily, given Universalism, there is no vagueness in the world; there is not a chair that has 'imprecise borders'. Rather, there are many different composite objects in the vicinity, with many different parts. Some of those composite objects have the particle that we described as 'at the boundary' as a part; others do not. But the crucial point is that there is no imprecision in the borders in any of the objects that exist. Vagueness only appears, here, because we have not decided which of these composite objects is the right one to be picked out by the term 'chair'. So, if it is more plausible to think that vagueness is in our

language or in our epistemology, rather than *in the world* and (many metaphysicians claim that it is), then Universalism seems motivated.

Third, it's worth pointing out that *Universalism* isn't a purely *ad hoc* answer to the SCQ. Whatever else we might say about *Universalism*, it's not *ad hoc*. We have a clear set of criteria as to when objects compose some further thing: always. Contrast this with 'fastening'. We saw that if we are to consider fastening a viable solution, then we must specify some particular strength of force as sufficient for fastening (and thus sufficient for composition). The trouble was that any strength of force that we specify looks arbitrary; we have no obvious reason to think that one particular strength of force is sufficient for composition, rather than another. Universalism simply faces no analogous problems.

S2.2.1 Problems

Let's now consider a problem that a proponent of Universalism might face – that *Universalism* is just *obviously* false. After all, any criteria for object-hood that would include pen-tables, tonsil-cups and Eiffel-tower-dolphins is not a criteria that succeeds in capturing what we intuitively think of as objects, at all. None of the three aforementioned putative objects would be ones that *I* would naturally think of as actually being objects. Let us call these strange objects 'gruesome' objects (following the convention in the literature).

But, although it might be right that these objects are deeply counterintuitive, it's worth taking a moment to consider one way in which proponents of Universalism have attempted to explain away the fact that the result is so counterintuitive. Let us begin by noting that all agree with the Universalist *inasmuch* as all of the objects that we intuitively believe to exist, are counted as existing composite objects by *Universalism*. Where we disagree is in the further objects that Universalism claims exist. Thus, what we require is an explanation of why we think that there are no gruesome objects.

What has happened here, says the Universalist, is that our language suffers from certain anthropocentric tendencies, such that our tendency to not think of there being such things as pen-tables is merely a matter of our ignoring them – plausibly due to their not being that interesting to us. Given the sort of creatures we are, and the particular needs and plans and projects we have, we recognize pens and tables as objects, but do not recognize pen-tables (and the like) as objects. After all, how regularly would we need to invoke something as abstruse as a pen-table in an explanation? How frequently would we feel the

The second answer that we will consider is fastening, or fastenation.

Fastenation: To get the *xs* to compose something, one need only cause them to be fastened to one another. (c.f. Van Inwagen (1990: 56))

To see the intuitive pull of *fastenation*, let's return to the Lego-brick case. Our concern when we considered *Contact* was that we don't get the Lego bricks to compose a castle simply by placing them next to one another. What we needed in order for composition to have occurred was for the bricks to be disposed to stay together in some way. That being the case, *fastenation* has appeal, in order to get the Lego-bricks to compose a castle, we'll have to not only bring them together, but cause them to be *fastened* together.

Now, does that deal with the two further problem cases that we raised for contact, above? It looks like it might. When we simply place the pen onto the table, we don't fasten the pen and table together. Thus, we don't generate a new composite object: there is no 'pen-table'. That's the result we wanted. Also, we *might* be tempted to say that although not in contact, there is some force of attraction that holds the electron and proton together, such that they compose a hydrogen atom. Of course, this would require us to say that a force is a fastening, but perhaps we can say that. *Fastenation* thus looks like it has quite a bit to recommend it.

But despite that intuitive lure, there are problems. Consider the pair of cases that we just looked at, but in more detail. In the case of the 'pen-table' we said that there's nothing fastening the pen and the table together. Is that right? Is there *nothing* binding them together? Plausibly, there is something. Gravity. Gravity is a force and so in precisely the same way that the force holding the electron and proton together suffices for them to be fastened to one another, so the force of gravity suffices for the pen and table to be fastened together. Since gravity is a force that holds the pen and table together, so there is some form of fastening between the table and the pen.²

The natural response to this is to say that the force of gravity (at least in this case) isn't strong enough to generate a new composite object. So, even if we allow that a force can act in such a way as to fasten two objects together, what is crucial is that we get *enough* of a force between them. If this was right then we would have to argue that the force between the electron and proton is enough to fasten them together (and, thus, lead to their composing a hydrogen atom) whereas the gravitational force between the pen and the table is not enough to count as a fastening (and so not enough for composition to occur).

Suppose that's right. It raises an obvious question: how strongly fastened would two objects have to be in order to compose a new object? If gravity is not enough, but the clicking together of Lego bricks is, then we look to need some definite account of quite where this line is to be drawn.

We face a rock and a hard place, here. The rock: if we specify too weak a force requirement for two objects to count as fastened, then the 'pen-table' gets to count as an object, which runs counter to our desire to avoid being too liberal. The hard place: if we specify too strong a force for fastening to occur, then we'll lose certain objects from our ontology that we might well want to keep. That seems problematic as it would be too conservative. What would be needed if we were to preserve fastenation is some way of specifying the force requirement for fastening in a way that satisfies both our liberal and conservative intuitions *and* that isn't ad hoc. Such a constraint looks very difficult to find. For any strength of force that we posit, it would look most reasonable to ask why we have fixed on *that* strength of force and not something just a *little* weaker or stronger.

That is not, of course, to say that such a thing is impossible. But, absent some way of specifying a non-ad-hoc answer to the question of how securely fastened two objects must be in order to compose, I shall move on.

§2.2 A very liberal reply

As indicated, we are at the moment stuck between having too conservative a criteria for when composition occurs (such that we admit too few objects into our ontology) and having too liberal a criteria for when composition occurs (such that we admit too many objects into our ontology). Although this seems like a problem to be overcome, some philosophers have denied that this is so. Indeed, some have chosen to become what we might call *maximally liberal* and endorse a view called *Universalism*, such that:

Universalism: for any non-overlapping *xs*, there is a *y* such that *y* is composed of the *xs*.³

The consequence of this? Quite simply, that whenever we have two distinct things, they compose a further object. The pen-table exists! But that's not the least of it: there also exist Eiffel-tower-dolphins, cat-cheeses and tonsil-cups! Indeed, if God and the Devil both exist, then so does a 'God-Devil'.

Consider another example. My house is made from bricks. It certainly appears, then, that the bricks compose my house. The plurality of bricks somehow has a unity and composes something new – my house. In contrast, imagine a pile of bricks strung out across a building site. This plurality of bricks does not compose an object. In what does the difference between these disparate collections of bricks consist? In virtue of what does one collection compose and the other not? In language with which we are now familiar: why is it that one plurality of bricks makes it true that <this is a composite object>, but the other plurality does not?

§2.1 Basic options: Contact and fastening

To sensitize ourselves to some of the dialectical issues at hand, let's consider two answers to the question as to when unity arises from plurality. The first answer is called 'Contact':

Contact: To get the *x*s to compose something, one need only bring them into contact; if the *x*s are in contact, they compose something; and if they are not in contact, they do not compose anything. (Van Inwagen (1990: 33))

Why might we be tempted by *Contact*? Consider the following: suppose you wake up on Christmas morning to find that someone has given you a Lego model as a present. At the point you receive the gift it is boxed up and the pieces are contained in small see-through plastic bags. The pieces are to be built into a toy castle. But, at the point when the pieces are spread out in the bag, they do not yet compose a toy castle. Indeed, part of the fun of receiving the gift is putting together the pieces in such a way as to get them to compose a castle. Our natural thought, then, might be that once we bring the pieces into contact with one another (hopefully in the way described by the instructions!) the pieces *compose* an object – a castle. We build a toy castle from the pieces and we achieve this by bringing the pieces into contact. Thus, where we bring entities into contact, they compose, but not otherwise. If Contact were correct, we'd have an answer to the SCQ.

But Contact, at least as it is stated above, fails. Think carefully about the Lego bricks: do we really want to say that we get them to compose some further object, *simply* by bringing them into contact with one another? Upon

further reflection, don't we really think that, in order to make the bricks into a castle, we'd have to fasten the bricks together? Think about another example: when we put a pen on a desk we don't think that, just by bringing the two objects (the pen and the desk) into contact, we do enough to generate a composite object – call it 'pen-table'.

Indeed, think back to the second case cited in §2 – that of a house being composed of bricks and a pile of bricks lying on a building site. Suppose that we arranged the building-site-bricks such that they were laid out next to one another (touching), running end-to-end across the building site. These bricks are in contact with one another, but it would seem very strange to think of them as composing an object.

So, to coin some terminology, (due to Markosian, 2008) *Contact* looks too liberal: if we endorsed *Contact* it would force us to admit into our ontology objects that we don't think exist, such as pen-tables. Any view that forces us to introduce too many objects into our ontology, we'll call *too liberal*. And it seems to matter if a view is too liberal. What we are trying to do, in answering the SCQ, is specify when composition occurs. If an answer to this question is too liberal, then it would appear that there will be situations in which the proposition <there is a composite object> is true, but where we do not, think such a proposition should be true.

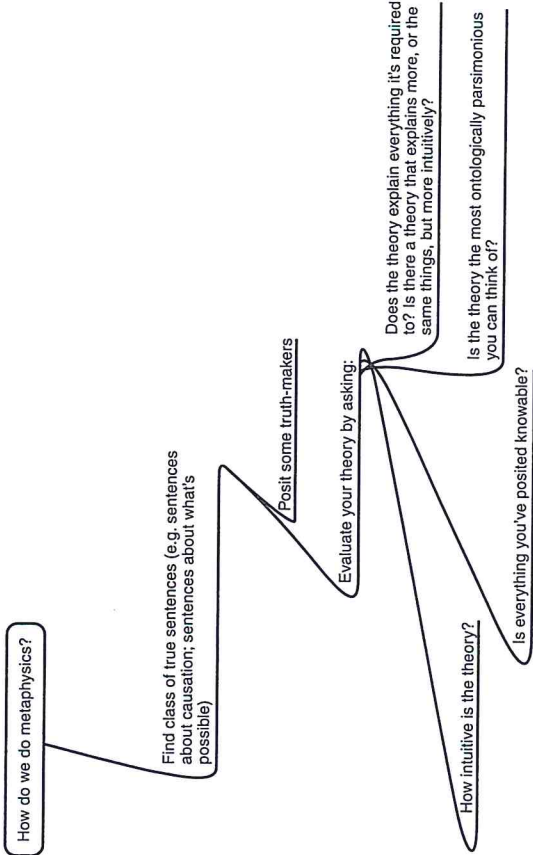
It also looks like *Contact* faces a different sort of problem. Think, for a moment, about a hydrogen atom. A hydrogen atom consists of one proton and one electron. It is a thing; plausibly, a composite object. However, according to *Contact* hydrogen atoms fail to be composite objects. Why? Because the proton and electron are not in contact with one another. To give a sense of this: were a proton scaled up to the size of the sun, then a similarly scaled-up orbiting electron would be orbiting at a distance much greater than that which the earth orbits the sun. That leaves a lot of space between electron and proton!

So, not only is *Contact* too liberal, it's also too conservative. That is, *Contact* would have us say that a hydrogen atom is not, contra what is seemingly our best physics, a composite object. Any view that permits too few objects into our ontology, we'll call *too conservative*. Once more, this is important. We are trying to specify when composition occurs. It seems that if a view is too conservative then it is failing to do justice to our sense of when this is. If our account is too conservative, then there will be situations in which we think that a collection of objects *ought* to make it true that <there is a composite object> – such as the case of the atom, just discussed – but in which it turns out that the proposition is not true.

Cameron, R. forthcoming. a. 'Truthmakers', in Glanzberg, M. ed. *The Oxford Handbook of Truth*. Oxford: Oxford University Press.
 Rodriguez-Pereyra, G. 2006. 'Truthmakers', *Philosophy Compass*, 1/2, 186–200.

Study questions

- 1) List all of the theoretical virtues of a metaphysical theory that have been described in this chapter. Are there any other potential features of a theory that you think would make it a good theory?
- 2) The methodology described in this chapter sees us positing truth-makers for all truths. Do you think that this is the right way to proceed? If not, how would you proceed instead?
- 3) In this chapter I suggested that we often find ourselves weighing and balancing competing theoretical virtues. Of the virtues you listed in response to question 1, which do you think most important and which least important? Why did you opt for that ranking?
- 4) Describe what you think the minimal truth-makers are for the following propositions, be as precise as you can be:
 - a) <the cup of tea is hot>
 - b) <there are three people between me and the door>
 - c) <the window is rattling>
 - d) <the desk is in my office>



The Special Composition Question: 'Physical' Objects

Chapter Outline

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Let us begin this section with the special composition question¹:

SCQ: what necessary and jointly sufficient conditions must any xs satisfy in order for it to be the case that there is an *object* composed of those xs?

To get a sense of what is being asked, let us think about an example. In my office I have a chair. It is composed out of many different parts. There are chair-legs, the back of the chair (which includes some cushioning) and the seat of the chair (which also includes some cushioning). These different parts (the chair-leg, the chair back and the chair seat) are composing a chair. Contrast this arrangement of objects with another. I have a desk in my office. On top of my desk are a coffee-cup, a computer and a printer. These distinct objects (the desk, the coffee-cup, the computer and the printer) do not compose an object. So, what are the legs, back and seat doing that the cup, desk, computer and printer, are not? It seems to us as if the legs, seat and back, come together to form a unified whole – a composite object that we call a chair – whereas the cup, desk, printer and computer remain a plurality and do not compose. So, when does unity arise from plurality?