

# DEBUNKING A MEREOLOGICAL MYTH: IF COMPOSITION AS IDENTITY IS TRUE, UNIVERSALISM NEED NOT BE

**ABSTRACT:** It is a common view that if composition as identity is true, then so is mereological universalism (the thesis that all objects have a mereological fusion). Various arguments have been advanced in favour of this: (i) there has been a recent argument by Merricks, (ii) some claim that Universalism is entailed by the ontological innocence of the identity relation, (or that ontological innocence undermines objections to universalism) and (iii) it is entailed by the law of self-identity. After a preliminary introduction to the competing theories of persistence (necessary for a discussion of Merricks' argument) I examine each in turn and demonstrate how they fail. I conclude that the prejudice that if composition as identity is true then Universalism is true, is unwarranted. Thus one motivation for believing Universalism is lost and those who believe composition as identity should now be receptive to some form of restricted composition.

## 1. INTRODUCTION

Here is one common, and another not so common, belief:

**Universalism:** For any *xs*, there exists an object composed of the *xs*.

**Composition as Identity (CAI):** The identity relation is the composition relation.<sup>1</sup>

Popularly, philosophers believe that if CAI is true, then Universalism must be likewise true. I believe that this is just a well-propagated myth. Indeed, let us call it that

**The Myth:** If CAI is true then Universalism is true.<sup>2</sup>

Certainly it is not *obvious* that the Myth is true, so some sort of argument for it is in order. In this paper I show that all the currently advanced arguments for the Myth fail. Firstly (in §2) I introduce some preliminary information detailing the different views on mereology held by perdurantists and endurantists. Both have a composition relation relative to times, but

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<sup>1</sup> Supporters include Armstrong (1997) p. 12 and Baxter (1988*a*, 1988*b*), whilst Sider (forthcoming) finds it compelling but ultimately flawed. Lewis (1991) and Sider (forthcoming<sub>12</sub>) sign-up to a theory slightly weaker than CAI: that composition is similar to identity in numerous respects. Those who support weaker versions of CAI may find my arguments intriguing even though I aim myself (like Merricks aims himself (*cf* Merricks (2005) p. 629) at those who endorse CAI in its strongest version possible. Albeit I don't see how *weakening* CAI can make it *easier* to prove that Universalism is true.

<sup>2</sup> My concern here is solely with whether or not CAI entails Universalism, not some variation that maintains that CAI is false but nevertheless that a whole is nothing over and above its parts. The reasons are two-fold. First, I believe there are only two (radically different) ways to interpret 'an object is nothing over and above its parts'. Either it is the claim that all talk of composite objects is just talk about pluralities of simples (which is either an innocuous truth if mereological nihilism is true, or sheer nonsense if mereological nihilism is false) or it is the claim that all composite objects are (literally) identical to the parts they compose (i.e. CAI). If an object is *not* identical to its parts it must – surely – be *something* other than them, for in other cases where I have one thing and then have another (distinct) thing that thing is *something else other than the former thing*. So the only sense I can make of discussion about 'things being nothing over and above their parts' is CAI (and perhaps nihilism, but clearly for this paper that interpretation is quite against the point). It is for this reason that I believe 'analogical' or 'moderate' versions of composition as identity fail to capture the intuition they claim to rely upon. The second reason to focus solely on CAI is that in the arguments I look at the proponents are likewise solely interested in (the strong version of) CAI. So whatever you may think

perdurantists also have an atemporal composition relation that is not related to times. So ‘the composition relation’ can mean different things depending upon what view you take of persistence. Consequently, exactly what CAI, and the Myth, amount to depends upon your view of persistence. With this necessary exposition completed I criticise a recently advanced argument by Merricks (§3). I then move on to two more arguments in support of the Myth. The first is that Universalism follows if composition is ontologically innocent (§4). The second is that just as every object is identical to some object, if CAI is true then every collection of objects composes some object. Which is just to say that Universalism is true (§5). I conclude that none of these arguments succeed, and as it stands the Myth is false.

## 2. PERSISTENCE AND MEREOLGY

### 2.1 ENDURANTISM AND COMPOSITION AS IDENTITY

Endurantists take objects to be wholly present at every moment at which they exist, and consequently that they do not have temporal parts.<sup>3</sup> They believe persisting wholes have (non-temporal) parts, and are related to such parts by temporal parthood, a three-place relation between the whole, the part and a time.<sup>4</sup> For example, a car (the whole) has a wheel (the part) at 10:00am on 4<sup>th</sup> April 2006 (the time). Likewise endurantists have a temporal brand of composition, such that an object is composed of some parts at one time (the atoms that compose me as a child) and different parts at another time (the atoms that compose me as an adult).<sup>5</sup> The definition, using temporal parthood as a primitive, is

**Temporally Relativised Composition (TRC):** The  $y$ s compose  $x$  at time  $t$   $\equiv_{df}$  (i) each  $y$  is a part of  $x$  at time  $t$ ; (ii) no two of the  $y$ s overlap at time  $t$ ; (iii) every part of  $x$  at time  $t$  overlaps at least one of the  $y$ s at time  $t$ .

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of the other theses the topic of this paper concerns only whether or not the Myth is true, not whether any other variety of theses (such as weaker versions of CAI or otherwise) entail Universalism.

<sup>3</sup> The definition of endurantism is a hotly debated topic, but this characterisation will suffice.

<sup>4</sup> Or some variant on that. For instance, van Inwagen suggests that *instantiation* between properties and objects is a three-place relation with the third place being time, but these technical distinctions don't matter for the purposes of this paper.

<sup>5</sup> Technically this doesn't apply to mereological essentialists. However, I believe the mereological essentialist should nevertheless take mereological relations to be temporally relativised in this fashion (*cf* Sider (2001) p. 64).

This is the only composition relation that the endurantist believes in.<sup>6</sup> Here then is a little known fact about endurantists who accept CAI: according to TRC composition is relative to times, and if CAI was true then identity should *also* be relativised to times, so to accept CAI endurantists must accept temporally-relativised identity (perhaps along the lines of that proposed by Myro<sup>7</sup>). Endurantists who relativise identity to times generally say that one object, say a statue, is identical to another object, say a lump of clay, at one time but not at another time (such as when the statue has been crushed, destroying the statue but leaving behind the lump of clay), although I will briefly look at (flawed) alternatives to this view of time-relativised identity in §3.2.

It is only given time-relativised identity that the endurantist can make sense of CAI so for the rest of this paper assume that it is just such an endurantist that I am discussing. For such endurantists CAI is the claim that identity (at a time) is the temporally relativised composition relation.

## 2.2 PERDURANTISM AND COMPOSITION AS IDENTITY

Perdurantism has different commitments than endurantism when it comes to CAI. The perdurantist believes persisting objects are composed of temporal parts, in much the same way that objects are composed of spatial parts. Perdurantists generally assume a non-temporally relativised parthood relation as a mereological primitive, so rather than the three-place relation, ‘part at a time’, there is a two-place parthood relation just between the whole and the part. They then define composition in terms of that relation

**Atemporal composition (AC):** The  $x$ s compose  $y \equiv_{DF}$  (i) each  $x$  is a part of  $y$ ; (ii) no two of the  $x$ s overlap; (iii) every part of  $y$  overlaps at least one of the  $x$ s.

This isn’t to say that the perdurantist doesn’t accept that there is a relation of ‘part at a time’, and a relation of temporally relativised composition. Perdurantism would be pretty weak if it failed to acknowledge that I am composed of some objects at one time but not at another. Indeed, they accept TRC as a definition of temporally relativised composition but

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<sup>6</sup> Technically this is not true. McDaniel (2004) argues that endurantists *should* believe in atemporal composition, not of material objects but of things such as intervals of time, whilst retaining a separate notion of temporally relativised composition (and a separate primitive ‘parthood at a time’) for material objects (*ibid.* p. 147). Such endurantists would need two identity relations as well, a time-relativised identity for persisting things and non-relativised identity for atemporal things (intervals, sets, universals etc.). I will ignore this complication for the purposes of this paper. Presumably our interest is in the composition of material objects (certainly all the arguments that we’re about to give have that as a supposition). I take it that to accommodate McDaniel’s pluralism about mereological primitives we’d have to qualify CAI as being the claim that the composition relation that holds between *material objects* (i.e. temporally relativised composition) is the identity relation that holds between material objects (so the identity relation that holds between material objects is temporally relativised as well). Such a modification could be made, and everything I say will apply to this qualified Myth, so by all means if you accept this form of mereological pluralism, just add in qualification at the appropriate places.

<sup>7</sup> Myro (1997).

(generally) deny that temporally relativised parthood is a primitive. Instead the perdurantist analyses parthood at a time in terms of atemporal parthood

$y$  is a part of  $x$  at time  $t \equiv_{DF}$  (i)  $x$  exists at  $t$ ; (ii)  $y$  exists at  $t$ ; (iii)  $x$ 's instantaneous temporal part at  $t$  is part of  $y$ 's instantaneous temporal part at  $t$ .<sup>8</sup>

and so the perdurantist can accept that objects are related to other objects via temporally relativised composition (as defined by TRC) or atemporal composition (as defined by AC). When I refer to just 'composition' assume that either relation will do. Take note that atemporal composition and temporally relativised composition are different relations. For instance, in some contexts when perdurantists make the claim that the  $y$ s compose  $x$  they will mean that the  $y$ s compose  $x$  at a *certain time*, such as when they talk about the molecules that compose a human being. Whereas in other contexts a perdurantist will mean that the  $y$ s *atemporally* compose  $x$ , such as when they talk about the temporal parts that compose a human being (if I am composed of my one-year old temporal part, my two-year old temporal part, my three year-old temporal part and so on and so forth, I am *atemporally* composed of those temporal parts, not just as one time or another).

So the perdurantist will (unlike the endurantist) accept CAI and non-relativised identity, because for the perdurantist CAI is the claim that identity is the atemporal composition relation (which *does* have the same adicity as non-relativised identity).

With these distinctions in place we can now turn to arguments for the Myth.

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<sup>8</sup> Sider (2001) p. 57.

### 3. MERRICKS' ARGUMENT

#### 3.1 THE ARGUMENT

Merricks believes that the Myth is true (although he himself believes neither CAI nor Universalism). He imagines that CAI is true, and then imagines that there are a plurality of objects, the *ys*, and asks whether they compose or not. His argument then proceeds

Presumably, the *ys* *could* compose something. So suppose that whatever must happen for the *ys* to compose something happens. (Perhaps the *ys* come to be arranged just so.) This should all make sense to the restricted compositionist. But, given composition as identity, it does not make sense. For after the *ys* 'come to compose' something, there is nothing other than whatever is identical with the *ys*. Yet before the *ys* came to compose something, there was whatever was identical with the *ys*. As a result, the *ys* going from composing nothing to composing something involves no change in what exists. But this is inconsistent with the claim that an object (namely, the sum of the *ys*) did not exist before the *ys* came to compose something, but did exist afterwards.<sup>9</sup>

Here is the way I see the argument. First we assume that Universalism is false (for *reductio*)

- (1) Universalism is false. (Assumption for *reductio*)

Then we imagine that there are some *ys* that do not compose at some time

- (2) The *ys* exist and they do not compose any further object at time *t*. (from (1))<sup>10</sup>

Merricks then says that the *ys* could compose (presumably, given the context, by 'could' Merricks means that they could do so at some *later time*, not some other *possible world*):

- (3) The *ys* compose a further object, *x*, at time *t'*. (Premise)

Merricks then says that "after the *ys* 'come to compose' something, there is nothing other than whatever is identical with the *ys*. Yet before the *ys* came to compose something, there was whatever was identical with the *ys*.". That's easy enough to represent:

- (4) There are some *ys* such that, (i) at *t*, (the *ys* all exist at *t* and) all that exists are the *ys* and whatever they are identical to and (ii) at *t'*, (the *ys* all exist at *t'* and) all that exists are the *ys* and whatever they are identical to. (from (2), (3) can CAI)<sup>11</sup>

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<sup>9</sup> Merricks (2005) p. 630.

<sup>10</sup> Technically this does not follow from (1) as there could be worlds where everything composes but that things could've been arranged differently such that they didn't compose. Universalism would then be false, but it would not be the case that there were any *ys* that did not compose. An example of such a possible world would be a world containing just one mereological simple. However, adding this modal modification will unnecessarily complicate matters, so I have neglected to add it here or in any subsequent statement in this section.

Merricks then says “As a result, the *ys* going from composing nothing to composing something involves no change in what exists.”, which I take to represent the following:

- (5) If there exist some *ys* and at one time all that exists are the *ys* (and whatever they are identical to) and at a later time all that exists are the *ys* (and whatever they are identical to) then there has been no change in existence between these two times. (Premise)
- (6) There has been no change in existence between *t* and *t'*. (from (4) and (5))

Merricks then says that, (6) is inconsistent with some object not existing at *t* but existing at *t'*. I take it that Merricks intends the following, eminently plausible, premise:

- (7) If there is an object that exists at one time, but not another, there is a change in what exists between those times. (Premise)

Given that, according to (2), there doesn't exist an object composed of the *ys* at *t* and that according to (3) there is an object composed of the *ys* at *t'*, then the antecedent of (7) is true and so we have

- (8) There has been a change in existence between *t* and *t'*. ((2), (3) and (7))

From (6) and (8) we get a contradiction and so can finish the *reductio*

- (9) Universalism is true. (from (6), (8) and *reductio ad absurdum*).

That's the argument as I see it. I do not think we need to accept the conclusion. Where the argument goes wrong, however, though depends upon whether you are an endurantist or a perdurantist. First I shall turn to the endurantist.

### 3.2 ENDURANTISTS AND MERRICKS' ARGUMENT

Endurantists should deny one of (5) or (7) on the grounds that if both (5) and (7) were true then a contradiction results *wregardless of ones commitments concerning mereology* (such as Universalism or CAI). Recall that the endurantist we are considering takes identity to be

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<sup>11</sup> Of course, it's only loosely speaking that (4) follows from (2) and (3). The first problem is sheer pedantry: there clearly might be things other than the *ys*! For instance, given some particles from the Andromeda Galaxy (the *ys*) there clearly exists things other than those objects (such as you and me!). Let us set aside this concern, presumably we can qualify our statements by saying we are ignoring such irrelevant objects. The second problem is no sheer pedantry. Even if all that existed in the universe were the *ys* (4) still need not be true, for there would also exist the individual *parts* of the *ys* (after all, no-one ever said that the *ys* were mereological simples). Even given CAI each part would be something that wasn't identical to any given *y* nor identical to all the *ys*. So Merricks would have some work to do to get from (2) and (3) to (4). However, let us *grant* Merricks this jump. Should it turn out that there is no satisfactory way to achieve it then this is bad for Merricks, not me! Moreover, none of *my* criticisms in §3.2 and §3.3 revolve around these issues. So let us be charitable, ignore these issues and press on.

relativised to times. Now imagine such an endurantist who takes no stance with regards to CAI, Universalism etc. Standardly, the endurantists who relativises identity to times do so in order to say something like the following: there can be a time,  $t$ , at which there exists a lump of clay that is misshapen and not identical to a statue, whilst at a later time,  $t'$ , that lump can be artistically moulded, and is identical to a statue. So such endurantists say that the statue is not identical to the lump at  $t$  but it is identical to the lump at  $t'$ . They must also accept (given (7)) that there is therefore *a change in what exists between  $t$  and  $t'$* , for the statue exists at  $t'$  but not  $t$ . But a lump of clay is a plurality of one, and at  $t$  there is just the lump and what it is identical to (i.e. the lump) and at  $t'$  there is just the lump and what it is identical to (i.e. the lump and the statue),<sup>12</sup> so given (5) there *has been no change in what exists between  $t$  and  $t'$* . Thus, for those endurantists, we get a contradiction *irregardless of anything to do with CAI or Universalism*. Thus the true victim of the *reductio* is not (1) but (5), (8) or the supposition that this variant of endurantism is tenable. Obviously if either of (5) or (8) is the problem then that's the end of Merricks's argument and the Myth needn't be true. If it's this version of endurantism that's the problem that means that – given CAI – we must be perdurantists (for it is only this form of endurantism that is compatible with CAI) and so the Myth is only true<sup>13</sup> if Merricks's argument is sound from the perspective of perdurantism (which I argue in the next section it isn't).

Of course, this assumes that the endurantist who accepts temporally-relativised composition says that there are objects that can be identical to other objects at one time but not another. Or, more specifically, the above will only apply to endurantists who believe the following can be true

- (10) (i)  $x$  exists at  $t$ ; (ii)  $y$  does not exist at  $t$ ; (iii) both  $x$  and  $y$  exist at  $t'$ ; (iv)  $x$  and  $y$  are identical at  $t'$ .

But perhaps not all endurantists who accept temporally relativised identity will believe (10). This is not a recommended move. For to deny (10) one must say that if  $x$  and  $y$  are ever identical then they must always be identical. Then, on the plausible assumption that if  $x$  is identical to  $y$  then  $y$  exists, we get

- (11) If  $x$  is ever identical to  $y$  then  $y$  exists at all times that  $x$  exists at.

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<sup>12</sup> Again, we ignore things like the parts of the lump.

<sup>13</sup> Or perhaps I should say 'interestingly true' for if you didn't believe that form of endurantism was tenable, and believed endurantism had to be true, then the Myth is a conditional that has a necessarily false antecedent and so is true in the same way that any such conditional is true. Thus Universalism follows from CAI being true in the same way that *anything* follows from it (even other answers to the Special Composition Question!). Presumably proponents of the Myth don't think it's true for *those* reasons.

but (11) (whilst acceptable to most people) becomes ludicrous when paired with CAI, for given CAI I am identical to my atoms. If (11) is true, that means I exist at all times that my atoms exist.<sup>14</sup> But my atoms existed billions of years ago whilst I clearly did not. So (11) is false (given CAI and temporally-relativised identity). Conclusion: endurantists who accept temporally-relativised identity, whether or not they accept (11), will find that their theory is untenable or that they are committed to denying one of the premises of Merricks' argument. Certainly no such endurantist will be persuaded to believe the Myth on these grounds.

### 3.3 PERDURANTISTS AND MERRICKS' ARGUMENT

With perdurantism things are different, as one would expect for (as explained in §2.2) perdurantists mean something quite different when they propose CAI than what endurantists mean. As it currently stands (1) through (9) deals only with whether or not the *ys* compose *x* at one time or another, and so the argument is explicitly concerned with temporally relativised composition. But for the perdurantist CAI is *not* the claim that temporally relativised composition is identity but the claim that atemporal composition is identity. When the *ys* compose *x* at time *t'* that means they stand in the *temporally relativised composition* relation to *x*. For endurantists who believe CAI that means that the *ys* are indeed identical to *x*, but for perdurantists this doesn't follow at all! That would only be true if the *ys* stood in the *atemporal composition* relation to *x*. Since the *ys* don't atemporally compose *x* (proof given in the footnote)<sup>15</sup> then for the perdurantist the *ys* aren't identical to that object. So (4) no longer follows from (2) and (3) (as the second conjunct of (4) is now false: at time *t'* there aren't just the *ys* and what they are identical to, there are the *ys* and the – very much distinct – object they compose relative to *t'*).

So if (1) to (9) won't work because they deal with temporally relativised composition, we could instead give a version of (1) to (9) that concerned itself with atemporal composition, simply by replacing the occurrences of temporally relativised composition with atemporal composition. It would be as follows:

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<sup>14</sup> At least once we take it in its plural form i.e. if *x* (or the *xs*) is (are) ever identical to *y* (or the *ys*) then *y* (or the *ys*) exists at all times that *x* (or the *xs*) exists at. Clearly, given CAI we get many-many identity and should feel free to take (11) in its plural form.

<sup>15</sup> Given their analysis of temporally relativised parthood a perdurantist says the following about temporally relativised composition:

The *ys* stand in the temporally relativised composition relation to *x* at *t* iff the instantaneous temporal parts of each of the *ys* at *t* atemporally compose the instantaneous temporal part of *x* at *t*.

So if the *ys* compose *x* at *t* then the right-hand side of the above is true. But that doesn't imply in anyway that the *ys* atemporally compose *x*! In fact the *only* circumstances under which they do is where the *ys* and *x* are all instantaneous objects for then the *ys* are identical to their instantaneous temporal part at *t*, as is *x*. Hence, if the instantaneous temporal parts of the *ys* (at *t*) atemporally compose the instantaneous temporal part of *x* (at *t*) then the *ys* atemporally compose *x*. But this doesn't help here as the *ys* in question, the *ys* posited by Merricks' argument, are clearly *not* instantaneous (for given (2) and (3) they exist at two times, not one, and aren't instantaneous).



- (1) Universalism is false. (Assumption for *reductio*)
- (12) At time  $t$  the  $y$ s exist and they do not atemporally compose any further object. (from (1))
- (13) At time  $t'$  the  $y$ s atemporally compose a further object,  $x$ . (Premise)
- (4) There are some  $y$ s such that, (i) at  $t$ , (the  $y$ s all exist at  $t$  and) all that exists are the  $y$ s and whatever they are identical to and (ii) at  $t'$ , (the  $y$ s all exist at  $t'$  and) all that exists are the  $y$ s and whatever they are identical to. (from (12), (13) can CAI)
- (5) If there exist some  $y$ s and at one time all that exists are the  $y$ s (and whatever they are identical to) and at a later time all that exists are the  $y$ s (and whatever they are identical to) then there has been no change in existence between these two times. (Premise)
- (6) There has been no change in existence between  $t$  and  $t'$ . (from (4) and (5))
- (7) If there is an object that exists at one time, but not another, there is a change in what exists between those times. (Premise)
- (8) There has been a change in existence between  $t$  and  $t'$ . ((12), (13) and (7))
- (9) Universalism is true. (from (6), (8) and *reductio ad absurdum*).

But given that we take 'compose' to be atemporal composition there are two ways to interpret (12) and (13), and under *neither* interpretation is it possible that both (12) and (13) are true. When perdurantists say that, at time  $t$ , some things (atemporally) compose a whole, they can either mean that (i) at time  $t$ , some objects atemporally compose the whole *qua* four-dimensional perduring worm, or they can mean that (ii) some (instantaneous temporal parts of some) objects atemporally compose the temporal part of the whole at instant  $t$ . For example, in the former sense my 1 year-old temporal part, my 2 year-old temporal part, my 3 year-old temporal part and so on compose me *qua* four-dimensional perduring worm, and presumably do so not just at one time, but at every time that I exist. In the latter sense the instantaneous temporal parts of certain atoms atemporally compose a certain instantaneous temporal part of me that exists at some instant in 2007. Both (i) and (ii) are legitimate interpretations of (12) and (13).

Given the former interpretation, (12) and (13) cannot both be true. The parts that compose a four-dimensional perduring worm never change. If I am composed of my 1 year-old temporal part, my 2 year-old temporal part and so on, I am *always* composed of such parts. It

is not as if this week I have my 1 year-old temporal part as a part but later in the week I will have lost it somehow. In this sense, perduring worms are mereologically constant over time – they always have the same parts. Thus in this former sense (12) and (13) cannot both be true as that would require the *ys* in question to compose a four-dimensional worm at one time but not another, which is impossible.

Given the latter interpretation, (12) and (13) are again such that at most one can be true. In this latter sense what atemporally composes me at some particular time is what atemporally composes the *temporal part* of me at the particular time. So the *ys* could be the instantaneous temporal parts of atoms and *x* could be a particular instantaneous temporal part of me. So this is to say that some things (the instantaneous temporal parts of atoms) atemporally composed an instantaneous temporal part of me from 1979, but that *different* instantaneous temporal parts of (quite probably different) atoms atemporally composed a *different* instantaneous temporal part of me from 2007. But now the problem is that in this latter sense the *ys* that exist at one instant will never be around at any *other* instant. The instantaneous temporal parts of my atoms from 1979 are *forever* to be found only in 1979. Whilst there are indeed *some* instantaneous temporal parts (of the atoms) in 2007, they aren't *those* instantaneous temporal parts (of the atoms) from 1979. So (12) and (13) cannot both be true on this interpretation for if (12) was true and the *ys* exist at time *t* but do not compose, (13) cannot also be true for it is impossible for the *ys* to also exist at time *t'* (as (13) requires). Either way at most one of (12) and (13) can be true, so at least one premise of the atemporal version of the argument is definitely false.

Given this, Merricks' argument – whilst initially seductive – fails to secure the correct conclusion for the perdurantist. Assuming that endurantism and perdurantism are exhaustive of the theories of persistence, that means that Merricks's argument fails in general.

### 3.4 THE MODAL ARGUMENT

Before moving on from Merricks, there appears to be a *second* argument for the Myth, this time revolving around variation across possible worlds and not times: he writes “it seems nonsensical to deny the existence of something that would, if it existed, be (identical with) things whose existence one affirms.”<sup>16</sup> Taking composition to be temporally relativised composition or atemporal composition (it doesn't matter which) we have this second argument:

- (1) Universalism is false. (Assumption for *reductio*)

(14) At some possible world  $\beta$  there exist some  $y$ s such that it is not the case that the  $y$ s compose  $x$ . (from (1))

(15) At world  $\beta$  the  $y$ s do compose  $x$ . (Premise)

Given CAI we get

(16) At world  $\beta$  the  $y$ s are identical to  $x$ . (from (15) and CAI)

The quoted text from above expresses the following:

(17) If the  $y$ s are identical to  $x$  at one world, then  $x$  exists at all worlds (that the  $y$ s exist at). (Premise)

But it will be easier (for my purposes) to rewrite (17). Presumably Merricks intends  $x$  to be identical to the  $y$ s at the worlds it exists at, so we can rewrite (17) as

(17') If the  $y$ s are identical with  $x$  at one world, then they are identical to  $x$  at all worlds (that the  $y$ s exist at). (Premise)

Given (17') we get

(18) At world  $\beta$  the  $y$ s are identical to  $x$ . (from (16) and (17'))

(19) At world  $\beta$  the  $y$ s compose  $x$ . (from (18) and CAI)

(20) (1) is false and Universalism is true. (from (14) and (19) we get a contradiction and so by *reductio* (1) is false)

(17') is a version of the necessity of identity. One might think, therefore, that (17') is quite plausible given that the necessity of identity is itself quite plausible. Alas, given CAI the necessity of identity loses all plausibility for it entails

(21) If the  $y$ s compose  $x$  at any world, then they compose  $x$  at all worlds (that the  $y$ s exist at). (from (17') and CAI).

(21) is, if you like, the necessity of composition, and the necessity of composition is not a sensible principle at all. If you are a perdurantist (21) is clearly false. Given perdurantism I'm (actually) identical to a collection of temporal parts of some molecules, the  $y$ s. Now imagine a different world where those  $y$ s are parts of different objects (such as cars, buses or mountains). At that world, if (21) is true, I'm composed of (and identical to) *those*  $y$ s. So in

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<sup>16</sup> Merricks (2005) p. 630.

other, close, worlds I am not human but a gerry-mandered composite of parts scattered about the world. This is absurd, so (21) and (17') must be false. Indeed, most perdurantists deny (17') anyhow, accepting counterpart theory and the contingency of identity that it entails.<sup>17</sup> (21) (and therefore (17')) is false for similar reasons for the endurantist: if some clay particles compose a statue in one world then in another world, where the particles are eternally scattered, it's just lunacy to believe that the scattered particles compose that self-same *statue*. Statues are, by necessity, not scattered across the universe. The lesson to be drawn is to deny (21) and, if you believe CAI, you must then deny (17'). So whilst (17') looks initially appealing, once you accept CAI the necessity of identity becomes repugnant, and with the loss of (17') this argument no longer works. Let us move on then from Merricks' reasons for believing the Myth is true.<sup>18</sup>

#### 4. ONTOLOGICAL INNOCENCE AND COMPOSITION

##### 4.1 ONTOLOGICAL INNOCENCE AS A MOTIVATION FOR UNIVERSALISM

Armstrong proposes the following as a motivation for Universalism<sup>19</sup>

[...] when objects form a mereological whole, that whole supervenes on those objects. Given *a* and *b* then the whole is there *automatically*. But such supervenience is, I think, ontologically innocent. It adds nothing to the world that was not there before. The truth-maker for the existence of *a + b* is no more than the existence of *a* and *b*. That, incidentally, is why it seems proper to take mereological fusion in a permissive fashion so that a given *a* and *b* may be "things" falling under totally different categories.<sup>20</sup>

Armstrong is quite clear: the relationship between a whole and its parts (i.e. composition) is ontologically innocent, and it is this feature of the relationship between a whole and its parts that gives us permissive mereological fusions (i.e. Universalism). Likewise, both Lewis<sup>21</sup> and Merricks<sup>22</sup> say something similar.

Obviously if CAI were true, composition would be ontologically innocent, but (*pace* Armstrong) there is no immediate move from that fact to the Myth, and at first glance it appears to be a *non sequitor*. In lieu of any explicit argument that moves from composition being ontologically innocent to the Myth being true, I will offer what I see as the most charitable argument I can give on Armstrong's behalf:

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<sup>17</sup> See Hawley (2001), Heller (1991), Lewis (1986) and Sider (2001).

<sup>18</sup> Sider also proposes a similar argument to the one given in this section. See Sider (forthcoming) §3.2. (17'), which I deny, is more or less the same as his premise 3.

<sup>19</sup> Although it is not his only argument for Universalism.

<sup>20</sup> Armstrong (1991) p. 192.

<sup>21</sup> Lewis (1991) p. 81-87, *cf* Hudson (2001) p. 105-6.

(22) CAI is true. (Premise)

(23) Identity is an ontologically innocent relation. (Premise)

(24) Composition is an ontologically innocent relation. (from (22) and (23))

Next we need to be more explicit about what an ontologically innocent relation is. Here is a definition suitable for our purposes

(25) A relation,  $R$ , is ontologically innocent iff for all  $x$  (or  $x$ s) and all  $y$  (or  $y$ s), if  $xRy$  (or  $x$ s $R$  $y$  etc.) then commitment to  $y$  is no further ontological commitment over and above the  $x$ s. (Premise)<sup>23</sup>

So identity is ontologically innocent, for if you believe in  $x$  (George Orwell, say) and you believe  $x$  is identical to the  $y$ , (Eric Arthur Blair, say) then commitment to  $y$  is no further ontological commitment over and above  $x$ . If you believe Orwell exists, it is no further commitment to believe in Blair. With this definition we can understand what it is for identity (and therefore composition) to be ontologically innocent.

However it is not enough for us just to say alone that there is no further commitment to  $y$  given  $x$ , we need the lack of a further ontological commitment to be a motive to think that  $y$  exists. This seems plausible enough though, so we can add the following explicit premise

(26) If commitment to  $y$  incurs no further ontological commitment over and above  $x$  (or the  $x$ s), then  $y$  exists if  $x$  (or the  $x$ s) exists. (Premise)

So given (26) not only is commitment to Blair no further commitment than to Orwell, if Blair exists you *must* accept that Orwell exists. The ontologically innocent objects are the free lunch you are forced to eat! But now we start to run into trouble, for any move from these facts to Universalism would be a *non sequitor*. I imagine that the (flawed) intention is to proceed as follows:

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<sup>22</sup> Merricks (2005) p. 629: he writes “Endorsing that object’s [the object supposedly composed of whatever arbitrary collection of things we consider] existence is as ontologically venturesome as endorsing the existence of Tully, given the uncontroversial existence of Cicero”.

<sup>23</sup> Oliver takes issue with defining ontological innocence in terms of commitment and counting as I do here. He says “If we measure commitment by the number of objects in our ontology, then a commitment to a cat-fusion *is* a further commitment, over and above the commitment to the cats which has all the cats as its parts. If we have ten cats, then the cat-fusion which has all the cats as its parts is an eleventh object.” (Oliver (1994) p. 221). This response isn’t going to work if you believe CAI. If I am committed to the existence of the President of the USA and George Bush I am committed to just one object. To further add in commitment to the son of former President Bush likewise incurs no further commitment and I need not increase the number of objects in my ontology. This is because they are identical. The same applies here. Because the many are identical to the one, there is no increase in the number of objects I am committed to, which is a good way of understanding what an ontologically innocent relation is meant to be.

(27) For all  $x$ s and all  $y$ , if the  $x$ s composed  $y$  then commitment to  $y$  would be no further ontological commitment over and above the  $x$ s. (from (24) and (25)).

(28) For all  $x$ s and all  $y$ , if the  $x$ s composed  $y$  then  $y$  would exist. (from (26) and (27)).

But this wasn't where we meant to end up! (28) is *trivially* true, and certainly doesn't amount to an endorsement of Universalism. But this failure should not shock us. The idea that accepting that Eric Blair exists forces you to accept the existence of George Orwell is fine only when you understand that Eric Blair and George Orwell are related by identity. An analogous principle applies with composition. We should feel forced to accept the existence of a composite object  $y$  only when we come to understand that the  $x$ s and  $y$  are related by composition. But *that* belief is uncontentious and does not amount to endorsing the Myth. So if there is a feature of identity that is meant to secure the Myth, it is not ontological innocence.

#### 4.2 ONTOLOGICAL INNOCENCE AS AN APOLOGETIC FOR UNIVERSALISM

But one may not intend ontological innocence to be a motivation for the Myth *per se* but instead intend it to undermine a common objection to Universalism. The common objection is that commitment to Universalism commits one to a wide variety of gerrymandered objects (trout-turkeys, Eiffel Mahals etc.) that clearly don't exist, and so Universalism must be false. The ontological innocence of composition, so the apologetic goes, would avoid this for commitment to the gerrymandered objects is no further commitment than to their parts which everyone already believes in. Including gerrymandered objects in ones ontology is no more profligate than demanding that not only should Winston Churchill appear in the one true ontology, but that the British Prime Minister between 1940 and 1945, the British Prime Minister between 1951 and 1955 and the author of *A History of the English-Speaking Peoples* should all do so as well. Since the latter just *are* the former believing in them could never be unparsimonious (given that you already accept the existence of Churchill), and similar considerations apply in the case of gerrymandered objects. Cohnitz and Rossberg put it this way<sup>24</sup>

The sum of Mars and Edinburgh Castle, for example, is not a new and strange thing. There is nothing particularly strange about Mars, nor about Edinburgh Castle. If we are okay with these two things the mereological sum of them should not bother us; it just *is* those two, taken as one. If you have an apple, you also have the lower and the upper half of it. You do not, however, have *in addition* to those two halves the whole apple.<sup>25</sup>

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<sup>24</sup> Armstrong and Sider endorse this argument also (Armstrong (1997) p. 185 and (Sider (forthcoming) §3.2).

<sup>25</sup> Cohnitz and Rossberg (2006) p. 96.

I believe that this misses the point. The objection is not that it is the *number* or *quantity* of objects that Universalism entails which is upsetting (for certainly CAI would nullify *that* objection) instead the objection is that the objects are too strange to admit into our ontology,<sup>26</sup> and CAI does nothing to alleviate that strangeness. Just because they do not *add* anything to my ontology in terms of number, doesn't mean they aren't still *weird*! For instance, David Icke famously believes certain important personages are, in fact, reptilian humanoids from the constellation Draco.<sup>27</sup> I find such a suggestion ludicrous. Icke cannot convince me that he is right by pointing out that, were I to accept his theory, I would not have to add any objects to my ontology on the grounds that they would be identical to things I already believed in (i.e. the various important political leaders of the world). That was never my quarrel. My quarrel was that there are no objects in the world with certain *features* (i.e. being reptilian aliens from Draco). Similarly for Universalism. I find gerrymandered objects ludicrous. It is of no consequence that were I to accept Universalism I would discover such gerrymandered objects to be identical to things I already believed in. That was never the quarrel. The quarrel was that there are no objects in the world with certain features (such as an object with the property of having the Taj Mahal and the Eiffel Tower as parts, or an object with the property of being a transtemporal fusion of myself alongside Noel Coward). Even with CAI I'm still left with those weird objects I never wanted!<sup>28</sup> Thus CAI provides no apologetic for Universalism on this score.

## 5. SELF-IDENTITY AND COMPOSITION

### 5.1 THE ARGUMENT FROM SELF-IDENTITY

There is a feature of identity/composition that looks like a better candidate to guarantee the Myth, namely the law of self-identity. Universalism demands that the *xs* always stand in the composition relation to something, and as any object always stands in the identity relation to something (namely itself) it looks like, given the law of self-identity, the Myth is true.

Not only does this sound quite plausible, I find that it is a common argument encountered in conversations on this topic. It also has some mentions in the literature. Harte also endorses it, arguing that composition must be unrestricted (given CAI) because the identity relation is not at all restricted<sup>29</sup> (which I take to be equivalent to saying that everything is identical to

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<sup>26</sup> For just one proponent of this objection, see Markosian (Forthcoming).

<sup>27</sup> Icke (1999).

<sup>28</sup> With particular thanks to Dilip Ninan on this point for his helpful comments and views in clarifying the matter.

<sup>29</sup> Harte (2002) p. 151.

something). Rosen also briefly talks about it.<sup>30</sup> Sider likewise claims that Universalism follows from the reflexivity of identity (in plural form).<sup>31</sup>

I think that whilst this argument may strike you as initially plausible, when we lay it out clearly we see that it fails. Observe: first we need the law of self-identity

(29) For any  $x$  there exists something identical to  $x$ .

But (29) won't cut it, we want to say that a collection of objects compose, and therefore (given CAI) that a collection of objects can be self-identical. So we need to alter (29) as it misrepresents identity as one-one not many-many. But this is not difficult, and given CAI should raise no eyebrows

(30) For any  $ys$  there exists something identical to the  $ys$ . (Premise)

With (30) in place we can proceed as follows

(31) CAI is true. (Premise)

(32) For any  $ys$  there exists something composed of the  $ys$  (from (30) and (31))

(33) For any  $ys$ , there is an object,  $x$ , composed of the  $ys$ . (from (32))

(34) If, for any  $ys$ , there is an object,  $x$ , composed of the  $ys$  then Universalism is true. (Premise)

(35) Universalism is true. (from (33) and (34)).

The flaw in the argument is subtle, and starts at (30). (30) appears to be an innocuous extension of the law of self-identity. But if we accept CAI then, as identity will then be many-many,<sup>32</sup> the  $ys$  need not be identical to a *single* object, as (30) demands, but instead the  $ys$  could be identical to *many* objects, the  $zs$ . Hence (30) should be

(30\*) For any  $ys$  there exists something, or somethings, identical to the  $ys$ .

Given this (32) now runs into problems. If identity holds between pluralities, and identity is many-many, then (given CAI) composition is many-many i.e. it can be true to say that one

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<sup>30</sup> Rosen (1995) p. 622.

<sup>31</sup> Sider (2001) p. 160 and (forthcoming).

<sup>32</sup> Some may complain that as (standard) composition is many-one, then identity need only be many-one. I disagree. Imagine an object, a human, composed of one collection of objects (his atoms) and another collection (his cells). According to CAI the atoms are identical to the human, and the cells are identical to the human. As identity is transitive, the atoms are identical to the cells, hence identity (and *a fortiori* composition) is many-many. I presume that denying the transitivity of identity is not something that those who believe in CAI will wish to do.



plurality composes another, and that a collection of objects composes another collection of objects. Given this (32) should instead read

(32\*)For any *ys* there exists something, *x*, that is composed of the *ys* *or* there exist somethings, the *zs*, that are composed of the *ys*. (from (30\*) and (31)).

Subsequently (33) becomes

(33\*)For any *ys*, they either compose an object *x* or compose a plurality, the *zs*. (from (32\*)).

But (33\*) is not the antecedent of (34), so we cannot derive Universalism. At best we could derive this:

**Universalism\*:** If the *ys* exist there exists either (i) an object, *x*, composed of the *ys* or (ii) some objects, the *zs*, that are composed of the *ys*.

But Universalism\* is not interesting, as the *ys* are *always* identical to themselves, and so they always compose themselves. And presumably Universalism isn't true just because every plurality of things compose *themselves*. We want Universalism to be the claim that every plurality of things compose *something* (singular).

Indeed Universalism\* appears to be compatible with the spirit, if not the word, of the various restricted compositions. Take mereological nihilists, who believe that the world is nothing but a sea of mereological simples (and pluralities of those simples). Whilst most nihilists believe that composition never takes place this is inconsistent with Universalism\*, for the pluralities all compose themselves. What *isn't* inconsistent with Universalism\* is that all that exists are mereological simples, and pluralities of those simples. So it appears that mereological nihilists can believe Universalism\*, whilst still denying that there exists even one composite object (as opposed to a composite collection of objects).<sup>33</sup> The same goes for every other thesis of restricted composition. For instance, van Inwagen believes (a) that the only (non-simple) composites are organisms and (b) the only things that exist (when it comes to material objects) are simples and organisms (although van Inwagen is more than happy to accept the existence of pluralities of such things as well).<sup>34</sup> Whilst Universalism\* rules out (a), as pluralities are also composite objects, it doesn't rule out (b). I don't think van Inwagen or nihilists (or indeed anyone) will be overly phased by the prospect of every plurality composing themselves. It's not a particularly interesting thesis (unlike Universalism). What

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<sup>33</sup> Or, more accurately, 'properly composite object' as mereological simples are composite objects, composed of their one improper part.

this signals is that because CAI entails that pluralities count as composites, when we come to ask questions about when composition occurs, what we're *really* interested in is when a plurality comes to compose a *single* object (*not* a collection). Universalism\* is not an answer to *that* question, so I take it CAI does not help decide whether Universalism is true or false. So it cannot be that considerations about the law of self-identity mean that the Myth is true (not, at least, as the Myth is commonly understood).

## 5.2 SIDER ON THE DODGY MOVE FROM (30\*) TO (30)

Of course, if we could make a leap from (30\*) to (30) the argument would be salvaged and the Myth restored. Sider considers a version of the above argument, and thinks that whilst moving from (30\*) to (30) is a 'dodgy move'<sup>35</sup> it nevertheless can be supported:

The thought behind this replacement [of (30\*) with (30)] is inspired by composition as identity: if the Ys are many, then speaking of them as one is just as good as speaking of them as many (and if the Ys are one then of course we may speak of them as one).<sup>36</sup>

I take it here that when Sider says 'speaking of them as one' he means we can successfully predicate 'are one' of the plurality, and so the plurality falls under the predicate 'are one' (there may be intended a subtle difference between saying we can speak of them as one, and them being one, but if there is such a difference it is too subtle for me to see). So the above quote expresses the following:

(36) If the ys are many then the ys are one, and if the ys are one then there is some such  $x$  that is identical to the ys (and  $x$  is one).

Given (36) we can make the move from (30\*) to (30).<sup>37</sup> I find two faults with (36). First it is not *obviously* true. You may endorse (36) but there is no overwhelming compunction to do so. Thus the best you will get is that the Myth is true *given* (36). But then Sider recognises

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<sup>34</sup> van Inwagen (1990).

<sup>35</sup> Sider(Forthcoming) §3.2.

<sup>36</sup> Ibid.

<sup>37</sup> In fact, given (36) we could replace the above with an even simpler argument for Universalism:

- (36) If the ys are many then the ys are one, and if the ys are one then there is some such  $x$  that is identical to the ys (and  $x$  is one).
- (38) For any ys, the ys are many. (Premise)
- (39) For any ys, there exists some  $x$  identical to the ys. (from (36) and (38))
- (40) For any ys, there exists some  $x$  composed of the ys. (from (39) and CAI)

And (40) is simply a restatement of Universalism. (38) is clearly true (except in the circumstance where there is only one  $y$ , but in that case  $y$  is identical to itself, and therefore composes itself, and thus there is some  $x$  composed of the ys anyhow) so we don't even need to bolster the leap from (30\*) to (30): were it the case that (36) was true we can get to the Myth this way instead.

this, and this is why he calls it a ‘dodgy move’ (and indeed only reticently endorses the Myth throughout his paper).<sup>38</sup>

Secondly, and more crucially, the consequent of the first conjunct of (36) (and so also the antecedent of the second conjunct) sits ill with those who accept CAI. It is

(37) The ys are one.

Those who believe CAI do not (generally) believe (37) can be true. If (37) is false then the first conjunct of (36) is false,<sup>39</sup> so (36) would be false. If (36) is false then it doesn’t help us get from (30\*) to (30) and the argument from self-identity remains a failure. Intuitively (37) is false for intuitively, to say of *many* things that ‘they are one’ is false. Consider a human who has  $7 \times 10^{27}$  atoms. It is true of the man that there is one of him, but it is not true of the plurality that there are one of *them* (there are  $7 \times 10^{27}$  of them!).

We could argue that (37) is true by saying that since they’re identical (and given the indiscernability of identicals), the atoms must be one (just like the human they’re identical to). I don’t favour this tactic simply because (37) is so reprehensible that even if I believed CAI I would sooner deny the indiscernability of identicals than accept it. And those who believe CAI agree. Baxter says any sentence that counts the number of things must be relative to a ‘count’. So claims like ‘the ys are many’ and ‘x is one’ can only be true relative to a given count. However Baxter is explicitly clear that there is no count in which many are one. They may be many in one count, and the (singular) thing they are identical to may be one in another count, but it is never the case that the ys are one.<sup>40</sup> Thus Baxter thinks all statements like (37) are false (and elsewhere explicitly presents a modified version of the indiscernability of identicals).<sup>41</sup> Lewis also finds (37) unnerving and says we will need an altered, non-generalised, version of the indiscernability of identicals to avoid the contradiction.<sup>42</sup> So it looks to me that those who accept CAI will nonetheless deny (37), and thus can’t have (36) nor the move from (30\*) to (30). At the very least we can conclude that those who believe in CAI have much work to do to make us believe (37) could be true (*a fortiori* much work to do to prove that (30) and (36) are true), and thus have much work to do in order to make us accept the Myth.

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<sup>38</sup> For instance see also §4.5.

<sup>39</sup> At least on those occasions where there are more than one y.

<sup>40</sup> Baxter (1988a) p. 201.

<sup>41</sup> See Baxter (1989) where he discusses altering the indiscernability of identicals that permit the same thing to differ from itself in terms of certain ‘aspects’.

<sup>42</sup> Lewis (1991) p. 87. Admittedly Lewis is discussing a slightly weakened version of CAI, but I still think it’s relevant in this case.

## 6. CONCLUSION

It is not *prima facie* obvious that the Myth is true, and I have critiqued all of the arguments that have been given in favour of it. A reason for believing in Universalism has been lost (one that Armstrong takes to be important, as his quote above shows), and the opportunity to believe in the various restricted compositions is no longer denied to those who endorse CAI.

## REFERENCES

- Armstrong, D.: 1991, 'Classes as States of Affairs', *Mind* **100**, 189-200.
- Armstrong, D.: 1997, *A World of States of Affairs*, Cambridge University Press, Cambridge.
- Baxter, D.: 1988a, 'Many-One Identity', *Philosophical Papers* **57**, 193-216.
- Baxter, D.: 1988b, 'Identity in the Loose and Popular Sense', *Mind* **97**, 575-82.
- Baxter, D.: 1989, 'Identity Through Time and the Discernability of Identicals', *Analysis* **49**, 125-31.
- Cohnitz, D. and Rossberg, M.: 2006, *Nelson Goodman*, Acumen, Chesham.
- Harte, V.: 2002, *Plato on Parts and Wholes: The Metaphysics of Structure*, OUP, Oxford.
- Hawley, K.: 2001, *How Things Persist*, OUP, Oxford.
- Heller, M.: 1991, *The Ontology of Physical Objects: Four-dimensional hunks of matter*, Cambridge University Press, Cambridge.
- Hudson, H.: 2001, *A Materialist Metaphysics of the Human Person*, Cornell University Press, New York.
- Icke, D.: 1999, *The Biggest Secret: The Book That Will Change The World*.
- Lewis, D.: 1986, *On the Plurality of Worlds*, Blackwell, Oxford.
- Lewis, D.: 1991, *Parts of Classes*, Blackwell, Oxford.
- Markosian, N.: Forthcoming, 'Restricted Composition' in Hawthorne, Sider and Zimmerman (ed.) *Contemporary Debates in Metaphysics*, Blackwell, Oxford.
- McDaniel, K.: 2004, 'Modal Realism with Overlap', in Jackson and Priest (ed.) *Lewisian Themes: The Philosophy of David K. Lewis*, Clarendon Press, Oxford.

- Merricks, T.: 2005, 'Composition and Vagueness', *Mind* **114**, 615-37.
- Myro, G.: 1997, 'Identity and Time' in Rea (ed.) *Material Constitution*, Rowman & Littlefield Publishers Inc., Oxford.
- Oliver, A.: 1994, 'Are Subclasses Parts of Classes?', *Analysis* **54**, 215-23.
- Rosen, G.: 1995, 'Armstrong on Classes as States of Affairs', *Australasian Journal of Philosophy* **73**, 613-25.
- Sider, T.: 2001, *Four-Dimensionalism*, Clarendon Press: Oxford.
- Sider, T.: Forthcoming, 'Parthood', *Philosophical Review*.
- van Inwagen, P.: 1990, *Material Beings*, Cornell University Press: New York.