

# The Lump Sum: a Theory of Modal Parts

## 1. Introduction

A lump theorist claims that ordinary objects are spread out across possible worlds, much like many of us think that tables are spread out across space. We are not wholly located in any one particular world, the lump theorist claims, just as we are not wholly spatially located where one's hand is. We are modally *spread out*, a trans-world mereological sum of world-bound parts. We are lump sums of modal parts.<sup>1</sup> And so are all other ordinary objects. Below, I explore lump theory and investigate five arguments against it. These arguments may be the primary reasons why lump theory (as envisioned here) has not been widely accepted - or extensively explored - until now.<sup>2</sup> I maintain that these arguments can be answered, and moreover, that accepting lump theory has distinct advantages, making it a competitive view in its own right.<sup>3</sup>

The aim of this paper is relatively modest: it is to show that lump theory can answer some objections that (I think) are some of the main reasons this view is not widely discussed or considered plausible in contemporary debates. I would consider the paper a success if, as a result,

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<sup>1</sup> Lump theory is just one way of embracing *modal parts*. Lewis (1986), (1993) accepts modal parts—and trans-world sums of modal parts—but he doesn't think that such objects are metaphysically interesting or relevant. (See below p. 3-4 for an elaboration on how our views differ.) L. A. Paul (2002) and Kris McDaniel (2004) argue for distinct views, each of which may be considered a 'modal parts' view, in virtue of the fact that individuals (on Paul's view) have modal properties as parts, or because individuals (on McDaniel's view) wholly exist in more than one possible world. Paul's and McDaniel's views differ from the one I am endorsing here, however, which is discussed (but not endorsed) in Brian Weatherson (ms(a) and (ms(b)), and David Kaplan(1979).

<sup>2</sup> Some exceptions: Varzi (2001) and Benovsky (2006a) each discuss views very similar to the one defended here. So does Schlesinger (1985), although he insists that he is not advancing "any special metaphysical claims", but rather aims to understand "a certain useful way of talking." Hale (1991) explores a version of the view explored in this paper, but her discussion is confined to modal realists and Lewis's arguments for counterparts over trans-world individuals. She aims to show that *if* one is a modal realist, then Lewis's arguments for preferring world-bound individuals to trans-world individuals are unsound, thus making trans-world individuals a live option for the modal realist. In section 4.1, I explore a lump theory without modal realism, making my present defense broader than Hale's. Benovsky (2006b) also explores what might be considered a version of lump theory, but like Paul (2002), he assumes a bundle theory of objects; no such assumption is made here. See also my \_\_\_\_\_ and \_\_\_\_\_.

<sup>3</sup> My use of 'lump' to designate trans-world sums is borrowed from Weatherson (ms(a) and (ms(b))).

lump theory is more widely considered a live option in relevant metaphysical discussions. I do not (here) aim so high as to try to convince anyone that lump theory is *true* - that is the job of another paper that has yet to be written. This paper merely aims to show that lump theory has earned a respectable seat at the table.

## 2. Lumps and Modal Parts

Let us make two controversial assumptions for now: eternalism and modal realism. An eternalist maintains that times other than the present exist; the past, present, and future are equally real. A modal realist claims that concrete possible worlds exist and ground or make the modal facts.<sup>4</sup> A lump theorist accepts that ordinary objects are spatially, temporally, and modally *extended*, and that they have spatial, temporal, and modal parts.<sup>5</sup>

Sider (2001) gives the following mereological definition of a temporal part:  $x$  is an *instantaneous temporal part* of  $y$  at an instant  $t =_{\text{df}}$  (i)  $x$  exists at, but only at,  $t$ , (ii)  $x$  is part of  $y$  at  $t$ ; and (iii)  $x$  overlaps at  $t$  everything that is part of  $y$  at  $t$ . Analogously, we may define modal part:  $x$  is a *world-bound modal part* of  $y$  at a world  $w =_{\text{df}}$  (i)  $x$  exists at, but only at,  $w$ , (ii)  $x$  is part of  $y$  at  $w$ ; and (iii)  $x$  overlaps at  $w$  everything that is part of  $y$  at  $w$ .

A lump theorist claims that ordinary objects are trans-world sums of world parts, and that these world parts make certain modal facts about the objects true. Objects (such as my desk) *could*

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<sup>4</sup> To be clear, one not need be a *Lewisian* modal realist. See Bricker (2008), e.g. But the differences between varieties of modal realism will be ignored in this paper for the purposes of keeping discussion of the viability of lump theory succinct.

<sup>5</sup> It is possible to commit to lump theory without committing to spatial or temporal parts. However, it is (to my mind) conceptually easier to consider a position that maintains symmetry with respect to its view on space, time and worlds. Moreover, such a view has the advantage of having a unified solution to metaphysical puzzles (which I discuss below). So I will only focus on a lump theory that embraces spatial, temporal, *and* modal parts in this paper. But variations are theoretically available. See Weatherston (ms(a) and (ms(b))) for a brief discussion.

*have been* a different color. Even if my desk is in fact black, it could have been blue. According to the lump theorist, my desk, a trans-world object, has one modal part in the actual world that is black and another modal part in another world that is blue.<sup>6</sup> This is how my desk (a trans-world sum or *lump*) could have been a different color than it actually is. An ordinary object, having a rich modal profile, has at least one (world) part in one world and another (world) part in another world. Any differences between these parts will ground the modal facts about the object.<sup>7</sup>

According to lump theory, ordinary objects are much *larger* than initially thought. We not only have spatial parts that you don't see (my back when you are viewing my front), and temporal parts that you don't see (my younger temporal parts when you are only acquainted with my older ones), but we also have modal parts that you don't see—parts in other, spatio-temporally and causally isolated possible worlds.<sup>8</sup>

The difference in the underlying metaphysics of ordinary objects between someone who believes in trans-world *objects* (as the lump theorist does) and someone who believes in trans-world *identity* is analogous to the difference in the metaphysics of ordinary objects as understood by the perdurantist and endurantist, respectively. An endurantist believes that ordinary objects are wholly present whenever they are located. A perdurantist (or temporal parts theorist) believes that ordinary objects are never *wholly* located at (in) a particular time.<sup>9</sup> What the endurantist considers the whole object, the perdurantist will argue, is really just a time-*slice* of a much larger object composed of

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<sup>6</sup> By 'trans-world' in 'trans-world object' or 'trans-world individual' I mean something similar to 'trans-continental' in 'trans-continental country'. An object (country) is stretched out across worlds (continents), yet is not wholly located in one world (continent). I do not mean by 'trans-world individual' (as it is sometimes used) to indicate an individual that is wholly located in more than one world, as in 'trans-world identity' (see Lewis (1986) section 4.3; Kaplan (1967), etc.).

<sup>7</sup> I am using 'world part' and 'modal part' interchangeably.

<sup>8</sup> I maintain that human beings are ordinary objects. Others may disagree. My defense of lump theory does not hang on this issue.

<sup>9</sup> Assuming that no ordinary object is instantaneous.

various temporal parts. Similarly, an ordinary object is not *wholly* located in one world, according to the lump theorist. What many of us consider to be the whole object is really just a world-*chunk* of a much larger object composed of various world parts. So those who endorse trans-world objects, as the lump theorist does, and those who believe in trans-world identity differ greatly as to what they think ordinary objects are, as well as what it is that makes the modal facts true.

The difference between someone who accepts lump theory and a modal realist like Lewis—someone who accepts that there are, in fact, trans-world sums of modal parts—is analogous to the difference between the temporal worm theorist and the temporal stage theorist. A worm theorist believes that ordinary objects are temporally spread out—a trans-temporal sum of various temporal parts. A stage theorist accepts temporal parts, but maintains that ordinary objects are temporal stages, with temporal parts as counterparts. Importantly, the worm theorist and stage theorist are two different ways of accepting temporal parts. Likewise, the lump theorist and the Lewisian modal realist are two different ways of accepting modal parts.

One could argue that the difference between them is merely semantic: the relevant views only disagree about the referent of ordinary object terms such as ‘table’ and ‘chair.’<sup>10</sup> But this is too quick. The worm theorist and stage theorist disagree about what it is that grounds the temporal facts of ordinary objects, just as the lump theorist and modal realist disagree about what it is that grounds the modal truths of ordinary objects. Both of these are (arguably) significant metaphysical differences. Moreover, even granting semantic disagreement, this does not entail lack of substantive metaphysical difference.<sup>11</sup>

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<sup>10</sup> I’m assuming ‘merely semantic’ in the pejorative sense, which is often in contrast with ‘metaphysically substantial’ in these sorts of anti-metaphysical objections. I do not endorse this contrast.

<sup>11</sup> See Plunkett and Sundell (2013). Their thesis is aimed at debates about normative and evaluative discourse, but their points apply more broadly. See *ibid.* footnote 25 and \_\_\_\_\_.

The above sketch of lump theory may be coherent enough—simply extend the analogy of a certain view of space and time to worlds. Nonetheless, you might think, the resulting view is incredible. Yet philosophers have a long history of tolerating the incredible.<sup>12</sup> Moreover, incredulity is not an argument. In the next section I explore five *substantive* objections to lump theory. In section 4 I respond to them.

### 3. 5 Objections

Perhaps the first and foremost complaint against lump theory is the fact that it assumes modal realism. Very few of us are modal realists, so this should be enough to undermine lump theory (as described here). Let's call this the **Modal Realism Worry**.

Second, even the most ardent modal realist, David Lewis, while fully willing to admit that there *are* trans-world objects in the sense described above, does not think that such objects would be metaphysically *relevant*. Lewis claims,

“I oppose trans-world individuals not by denying their existence—not when I quantify without restriction—but rather by denying that they deserve our attention.”<sup>13</sup>

So if even *Lewis* would deny that trans-world individuals are metaphysically relevant—i.e., that such objects would be the referent of ordinary object terms such as ‘table’ and ‘chair’—then those of us who reject modal realism have further reason to reject modal parts. For even if we did accept modal realism, why should we think that trans-world composite objects deserve our attention? Let's call this the **Relevancy Worry**.

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<sup>12</sup> Idealism, Platonism, Skepticism, belief in a-being-than-which-no-greater-can-be-conceived, Modal Realism, Nihilism (about ordinary objects), Universalism (about ordinary objects), and so on, just to name a few.

<sup>13</sup> See Lewis (1986) section 4.3. His admittance of trans-world individuals follows from his commitment to universalism, the view that for any two objects, there is a mereological sum or fusion of those objects—*any* two objects, so this includes objects in different possible worlds, thus leading to trans-world sums.

A third concern involves the fact that even if we accept modal realism, possible worlds are spatio-temporally and causally isolated. So the only (relevant) relation that world parts can have to each other is similarity. A trans-world individual would have world parts that are spatio-temporally and causally isolated. Contrast this with temporal parts, where the relevant parts of ordinary individuals are connected by causal—as well as similarity—relations.<sup>14</sup> Lewis maintains that these relations are integral to accounting for gradual change over time. A leaf gradually changes from green to red. The temporal worm theorist accounts for this by appealing to the fact that “...the way it is at any time depends causally on the way it was at the time just before.” Trans-world lumps have parts that are not so causally connected or united, and hence lack similar explanatory utility. Let’s call this the **Causal Isolation Worry**.<sup>15</sup>

A fourth concern involves strange cases of fission. In a temporal case of fission, what appears to be one person gradually splits into (what appears to be) two. In such cases, prior to the split, do we have one person or two? A temporal parts theorist has at least two ways to answer this question. She may claim that prior to the split, we have two persons in front of us (not one) because persons are trans-temporal objects that merely overlap some of their temporal parts (this is worm theory). Or she may say that at any given moment prior to the split there is only one person, since there is only one person stage (and persons are stages), but that this stage has two equally good (distinct) temporal counterparts (this is stage theory). Neither option coheres with common sense,

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<sup>14</sup> Because Lewis accepts universalism, there may be a mereological sum of, say, one of your temporal parts and a temporal part outside of your light cone. Such a sum would not have parts that are causally connected. But they would also not be the referent of ordinary object terms, so they can be ignored for the purposes of the point being made here. Thanks to \_\_\_\_\_ for this example.

<sup>15</sup> This objection, and the two that follow, are modified versions of the arguments Lewis gives for rejecting the claim that trans-world individuals are *metaphysically relevant*. As noted above, Lewis grants that such objects exist (Lewis (1986) section 4.3). But one could easily adapt his arguments to the stronger conclusion that trans-world objects do not exist, and that lump theory is false. This is what I have done here.

Lewis admits.<sup>16</sup> Moreover, the worm-theorist's answer is theoretically counter-intuitive because of the fact that how many people there are is "extrinsic to the time in question."

"It seems for all the world there is only one. We will have to say something counter-intuitive, but we get a choice of evils. We could say that there are two people; or that there is really one, but really we're counting stages rather than people, but we're not counting all the people who are present; or that there is one, and we're counting people, but we're not counting them by identity. It really isn't nice to have to say any of these things—but after all, we're talking about something that doesn't really ever happen to people except in science fiction stories and philosophy examples, so is it really so very bad that peculiar cases have to get described in peculiar ways? We get by because ordinary cases are not pathological."  
(Lewis (1986: 218-9))

Strange cases of fission are purportedly rare in the temporal case. But they are rampant in the modal case.

If persons are trans-world lumps, then there will very often be competing potential world parts.<sup>17</sup> Take some world-bound, lonely individual  $A$  in  $w_A$ . Suppose  $A$  has (on Lewis's view) a counterpart  $B$  in  $w_B$  and another counterpart  $C$  in  $w_C$ . Also suppose that  $B \neq C$  and  $B$  and  $C$  are not counterparts of each other. Then according to lump theory, there is a trans-world individual that is the sum of  $A$  and  $B$  (call this  $AB$ ) and another that is the sum of  $A$  and  $C$  (call this  $AC$ ).<sup>18</sup> So if we are in  $w_A$ , looking at  $A$ , how many individuals are (partially) before us? Analogous to the worm theorist's response in the temporal case of fission, the lump theorist will claim that we have two

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<sup>16</sup> Lewis (1986) admits, anyway. Lewis (1983b) appeals to an unorthodox view of counting to assuage the seeming un-intuitiveness of fission cases. Sider (1996) doubts whether counting by non-identity relations, as Lewis suggests, will yield the correct (or intuitive) results desired. So let us state the objection this way: fission cases are weird and it is not clear or uncontroversial what we should say about them. But, fortunately, they are rare in the temporal case, so temporal worm theorists need not worry overly much about them. Unfortunately, they are rampant in the modal case, so lump theorists *do* need to worry overly much about them.

<sup>17</sup> I am taking persons to be maximal counterpart-interrelated sums of world parts, which is a lump theorist's analog to Lewis's (1983b) account of personhood.

<sup>18</sup> By 'trans-world individual' I mean some ordinary object that is of some metaphysical importance to us. Assuming unrestricted composition, there are all sorts of trans-world mereological sums. But analogous to the temporal worm theorist, and following Lewis (1986: 213), the lump theorist will maintain that many of these sums can be properly ignored. So let's ignore them, too. From here on out, when I talk of a trans-world individual, I mean a trans-world ordinary object or person.

individuals (partly) in  $w_A$ — $AB$  and  $AC$ —both of whom are trans-world objects that merely overlap some of their world parts—namely,  $A$ . But as with the temporal case, this may be counterintuitive.

Moreover, this has the odd consequence that the answer to *how many individuals are there?* (at  $A$ ) is extrinsic to the world under consideration. Take world  $w_A$  and take its duplicate,  $w_D$ , which has an individual,  $D$ , the duplicate of  $A$ . It may seem that when we duplicate the world, we duplicate the number of individuals. After all, we have  $A$  in  $w_A$  and  $D$  in  $w_D$ . Furthermore, one might think that if we have two individuals (partially) in  $w_A$ —for example,  $AB$  and  $AC$ —then we have two individuals in  $w_D$ —say,  $DB$  and  $DC$ . Since  $B$  and  $C$  are counterparts of  $A$ , and the counterpart relation (on Lewis’s view) is qualitative, then  $B$  and  $C$  are each counterparts of  $D$ . But, intuitively, the number of individuals we (partially) have in  $w_D$  (and  $w_A$ ) is *dependent* on parts in other worlds—in particular, it’s dependent on  $B$  and  $C$ . In this way, one might argue, the number of individuals at a world is extrinsic.<sup>19</sup>

What’s worse is the epistemic fact that we can never get outside of our world to ascertain the count. In response to temporal fission cases, Lewis (1983b) considers an individual, Ned, who may or may not be undergoing fission sometime soon:

“But what if we don’t know whether Ned will fission? In that case, we don’t know whether the one person Ned (counting by identity-now) is one person, or two, or many (counting by identity). Then we don’t know whether “ned” is ambiguous or not. But if the ambiguity is not a practical nuisance, we don’t need to know. We can wait and see whether or not we have been living with a harmless ambiguity.” (1983b: 29)

But we can’t just ‘wait and see’ in the modal case, since we can never get outside of our world to *look*. So our ordinary objects terms will be perpetually ambiguous, and we will never know whether there is one, two, or many individuals.<sup>20</sup>

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<sup>19</sup> This discussion involves intensional and hyperintensional notions of intrinsicality, which takes us beyond the scope of this paper. See Eddon (2011) for elaboration. Thanks to \_\_\_\_\_ and \_\_\_\_\_ for discussion.

<sup>20</sup> To be clear, Lewis himself does not make this point against the lump theorist—perhaps because he has epistemic worries of his own to address.



Moreover, unlike the temporal case, the modal cases are ubiquitous. Any situation where an individual has—on Lewis’s view—distinct counterparts in distinct worlds (or twin counterparts in the same world), where such counterparts are not counterparts of each other, we will have a modal case of fission. So while fission cases are somewhat problematic in the temporal case, their scarcity minimizes the threat to temporal parts theory. However, in the modal case “pathology is everywhere,” making lump theory implausible. Let us call this the **Pathology Argument**.

Finally, one might object that, other ordinary objects aside, *we human beings* are not (and cannot be) trans-world. discuss

“Consider the various desires of my temporal stages in this world. They differ, of course; but there is plenty of common purpose to it...Not so across worlds. My this-worldly self has *no* tendency to make the purposes of its other-worldly counterparts its own. Far from wishing good fortune to all the counterparts alike, what it wants is that it should be one of the most fortunate among them. There is no common purpose....” (Lewis (1986: 219-20))

We simply do not care what happens to individuals that are spatio-temporally isolated from us! Moreover, given the vastness and variety of modal parts, you simply could not (and do not) have collective self-interest for all of your modal parts. Contrast this with the temporal case—you *do* care about other temporal parts. So we, ourselves, could (in principle) be trans-*temporal* individuals, but we cannot be trans-*world*.<sup>21</sup> Let’s call this the **Argument from Self-Interest**.

#### 4. A Defense of Modal Parts

##### 4.1 *The Modal Realism Worry*

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<sup>21</sup> “Consider the various desires of my temporal stages in this world. They differ, of course; but there is plenty of common purpose to it...Not so across worlds. My this-worldly self has *no* tendency to make the purposes of its other-worldly counterparts its own. Far from wishing good fortune to all the counterparts alike, what it wants is that it should be one of the most fortunate among them. There is no common purpose....” (Lewis (1986: 219-20))

Let's begin with the **Modal Realism Worry**. I have two (independent) responses to this worry: one conciliatory and the other stubborn. Let's start with the conciliatory.<sup>22</sup>

First, I assume that the majority of philosophers disagree with modal realism because of the concreteness of possible worlds, not because of the commitment to possible worlds *per se*; most believe in *abstract* possible worlds. I do not mean to suggest that the *only* relevant difference between an abstractionist and a modal realist is that, while both of them believe in possible worlds, the modal realist believes these worlds are concrete, whereas the abstractionist thinks that they are abstract. But the substantial differences between the abstractionist and modal realist may be negligible when considering the viability of lump theory. The crucial characteristic of lump theory (as I envision it) is that *whatever it is* that plays a certain theoretical role are parts of individuals (*via* mereological sums). So if possible worlds are, for you, abstract—sets of sentences, say—then let the various parts of these worlds be parts of individuals. Lump Theory with Abstractionism (call this LTA) would maintain that ordinary objects—tables, chairs, you and me, etc.—are mereological sums of concrete objects and parts of (abstract) possible worlds. The details of a particular version of LTA would depend on the type of abstractionism accepted. But if possible worlds are abstract sets of propositions, then these propositions (or parts of these propositions) would be proper parts of ordinary objects. Many individuals, then, would be partly concrete and partly abstract; they would be trans-world because part of them overlaps (abstract) possible worlds.

Van Inwagen (1987) would likely protest against such objects:

“...though I think that color blue and I both exist, I am unable to form a sufficiently general conception of parthood to be able to conceive of an object that has me and a color as parts.”  
(1987: 35)

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<sup>22</sup> Some of the content below is an elaboration of arguments made in \_\_\_\_\_.

But just because van Inwagen, an anti-compositional-universalist (and semi-nihilist), is unable to imagine such hybrid concrete/abstract composite objects does not prevent others from doing so. I know what the color blue is. I know who van Inwagen is. So I can easily imagine an object that is the mereological sum of the color blue and Peter van Inwagen. I can (in principle) say where it is and what it is doing, since I know where the parts are and what they are doing. Part of this sum is a talented philosopher, and another part is (partly) instantiated where my coffee mug is. It is no different than imagining a mereological sum of the Statue of Liberty and Peter van Inwagen, except that the color blue is of a different ontological category. But if I already have the color blue *in* my ontology, in the way that the Statue of Liberty and Peter van Inwagen are in my ontology, then never mind what ontological category it falls under: I can imagine a mereological sum of the color blue and Peter van Inwagen. We can disagree as to whether such hybrid concrete/abstract objects exist, surely, but imagining them seems relatively easy enough. Similarly, if possible worlds are abstract, then we can easily imagine that various parts of these worlds are parts of other things. Mereological sums of flesh and blood and whatever (abstract) thing that plays the role of individuals in your (abstract) possible worlds can simply *be* an entire individual. So there is no reason in principle why abstracta cannot be parts of things—especially if you already think that abstracta are part of what there is!

L. A. Paul (2002), for example, maintains that objects are (partially) composed of *logical* parts. An ordinary object—such as a chair—has qualitative properties, such as *being large*, *being comfortable*, *being possibly blue*, etc., and that such properties are best analyzed as being fusions of properties—i.e., that “a logical part of the fusion is a property which is included in the fusion.”<sup>23</sup> Such logical parts may be (and likely are) abstract. Moreover, Paul uses her property mereology to solve puzzles of

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<sup>23</sup> Paul (2002: 579)

change and material constitution problems, which is (I argue below) one of the main advantages of lump theory. Now, true, what Paul intends by logical parts is different than the notion of parts required for LTA. Instead of individuals having (modal) properties as parts, LTA proposes that individuals have certain abstract objects (or parts of abstract objects)—i.e., whatever it is that, according to abstractionism, makes the modal facts true—as parts. Nonetheless, the lesson is that positing ordinary objects as having abstract parts is not exceptional.

Moreover, the coherence of lump theory relies on the coherence of a definition of modal parts, which does not assume a particular metaphysics of worlds. You need not be a modal realist, in other words, to accept the definition of modal parts given above. It is true that I assumed modal realism at the beginning, but this was just to encourage a conceptual grasp of lump theory. Now that we understand the view with modal realism, we can relax our assumptions and play with variations on the view.

The definition of modal parts uses world-talk such as ‘exists-at’ and ‘world’ as well as mereological talk such as ‘part-of’ and ‘overlaps.’ But an abstractionist presumably already has an adequate concept of world-talk. One of the main motivations for being an abstractionist in the first place is to take advantage of the theoretical benefits of having possible worlds in one’s ontology, while avoiding the ontological burdens that come with the concreteness of them. So, at the very least, the world-talk needed for making the definition of (world-bound) modal parts coherent does not assume a metaphysics of worlds.

As for the mereological notions, I assume that Lewis (1991) is right, and that our mereological notions are ontologically neutral.<sup>24</sup> Idealists, for example, may genuinely disagree about

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<sup>24</sup> I am also assuming that our mereological notions such as ‘part of’—and the parthood relation in general—are univocal, contra Fine (2010), McDaniel (2010, 2014) and \_\_\_\_\_.

how best to answer van Inwagen's Special Composition Question.<sup>25</sup> Whether bricks and houses are material or immaterial is independent from the issue of whether some bricks compose a house. We can imagine a compositional nihilist idealist and a compositional universalist idealist—both of whom agree that all that there is are minds and ideas, but disagree about whether there are (immaterial) *composite* tables and chairs. So our concept of composition is separable from the metaphysical make-up of the (alleged) composers. So whether possible worlds are abstract or concrete is separable from the issue of whether individuals are trans-world composites. So lump theory with abstract possible worlds is coherent.

Finally, mereological sums with (abstract) worlds (or parts of abstract worlds) as parts is coherent if compositional universalism is true. Given universalism, a mereological sum can have concrete and abstract parts; individuals (e.g., human beings) may have more than just concrete parts, depending on what you already think is in the world.<sup>26</sup> This certainly makes LTA more plausible. I'll merely assume universalism in this paper, but in fact I think that (i) a modal parts theorist can provide an argument *for* universalism, *via* an argument from vagueness, and so she need not merely assume it,<sup>27</sup> and (ii) universalism isn't even necessary to make lump theory coherent. We need only have a *permissive* notion of parthood, such that trans-world sums are in, e.g., but other random sums are out.<sup>28</sup> So it is theoretically available to accept lump theory without accepting universalism. But

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<sup>25</sup> Special Composition Question: When do some objects compose something?

<sup>26</sup> Van Inwagen (1987) makes a distinction between *universalism* and *super-universalism*. The former is a claim only about concrete objects and the latter is a claim about any objects whatsoever, concrete, abstract, or what have you. However, given that I am following Lewis (1991)—i.e., assuming that our theory of parts should be ontologically neutral—our commitment to universalism is independent from our other ontological commitments. If we have abstracta and concreta in our ontology, and we commit to universalism in our mereology, then we commit to van Inwagen's super-universalism. So my point in this section is: if you are an abstractionist, then you already have abstracta in your ontology. If you are committed to universalism as well, then you are already committed to mereological sums that have abstracta as parts. So the idea of trans-world individuals that have (parts of) abstract worlds as parts is not incoherent. (Again: you might not think such things *exist*, but that's a different point I'll address below.)

<sup>27</sup> See \_\_\_\_\_.

<sup>28</sup> One way to do this, as mentioned in footnote 3, is to accept modal parts, but reject temporal or spatial parts.

my response to the modal realism worry is smoother if we assume it, since my main point is to push the coherence of LTA.

The preceding paragraphs consider rejecting LTA on the ground that abstracta cannot be parts of things—i.e., that a hybrid abstract/concrete composite object such as Peter van Inwagen and the color blue is incoherent. But you may object to the coherence of modal parts in general (including LTA) on the grounds that modal facts (or whatever it is that grounds the modal facts) simply are not *part* of ordinary objects. That is, you may think that the relation between you and your modal profile (or whatever grounds your modal profile) is not mereological.

However, many of us think that integral to ordinary objects—tables, chairs, you and me, etc.—is their rich modal profile. Ordinary objects are often defined by what they can and cannot do, by their persistence conditions, etc. A modal profile plus Leibniz's Law distinguishes (seemingly) coincident entities. The statue and the lump of clay have exactly the same (spatial) parts at the exact same time. Yet the lump can be squished and survive, but the statue cannot. This isn't just an epistemic point—it's not just that we know that the lump of clay and the statue are distinct objects by considering their modal profiles. Rather, it's *because* the lump and statue have different modal profiles that they are argued to be distinct objects. The modal features are difference *makers* (some might say). If modal profiles are enough to make a metaphysical difference (i.e., non-identity), then it is not a far leap from this to think that an object's modal profile is *part* of the object—i.e., that how a thing could and couldn't be is part of what that thing *is*. One easy way to accommodate this intuition is to have whatever it is that grounds the modal facts literally be part of the objects—in other words, to accept lump theory. This isn't an argument for lump theory—yet. It is merely a way of massaging

intuitions away from the complaint that the relationship between an ordinary object and its modal profile cannot be mereological. On the contrary, careful reflection reveals just the opposite.<sup>29</sup>

But it is one thing for a view to be coherent, it is another for it to be credible. I have been pushing lump theory with abstractionism as if swapping out concrete worlds for abstract ones makes no difference in the resulting theory—except to make everything better by avoiding the Modal Realism Worry. All of the benefits! None of the bugs! But that’s a bit of false advertising.

I gave my original definition of modal part as:  $x$  is a *world-bound modal part* of  $y$  at a world  $w$  =<sub>df</sub> (i)  $x$  exists at, but only at,  $w$ , (ii)  $x$  is part of  $y$  at  $w$ ; and (iii)  $x$  overlaps at  $w$  everything that is part of  $y$  at  $w$ . But this was assuming modal realism. This definition can get odd if we switch to LTA. For one thing, the phrase ‘at a world’ no longer has a straightforward interpretation, and will depend on the type of abstractionist view under consideration. Moreover, according to certain abstractionist views, worlds are mereological simple.<sup>30</sup> Individuals may then be sums of various possible worlds, rather than parts of possible worlds, but, admittedly, this will make LTA less plausible. There are other abstractionist views that may fair better. A Forrest-style structural universalist view or some kind of Plantinga states of affairs model, for example, will allow that parts of (abstract) possible worlds are parts of individuals, which will fit more in line with my suggestions above. Clearly, there is some more work to be done here.

Moreover, one might object as follows: the difference between a modal abstractionist and a modal realist is not *just* the metaphysical make-up of possible worlds – i.e., an abstractionist thinks worlds are abstract, a realist thinks they’re concrete. A modal realist thinks that the concrete possible worlds are modal truth *makers*. What is going on in these possible worlds is what *makes it the case* that something is possible or not. Most modal abstractionists, on the other hand, take the abstract modal

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<sup>29</sup> See Koslicki (2008), who argues along similar lines.

<sup>30</sup> See Stalnaker (1968, 1987).

facts to merely *reflect* the modal truths, not *make* them. If this is so, then the advantages I claimed a moment ago seem to be undermined. I boasted that if the modal features are enough to be difference makers, then as parts of modally extended objects, these differences in parts could solve puzzles of spatial-temporal coincidence (e.g., Goliath and Lump). If an abstractionist thinks that possible worlds are merely ways of *representing* - but *not making* - the modal facts, then even if we allow that these abstract representations are parts of objects, it does not seem to deliver the same elegant solution to puzzles of coincidence that having concrete modal parts does.<sup>31</sup>

Part of the difficulty likely stems from thinking that LTA accepts possible worlds other than the actual world. But arguably, accepting abstract possible worlds is an actualist theory – it denies that there are other (concrete) worlds other than the actual world. Consider a temporal analog: imagine someone who denies other times than the present. This is presentism. It does not matter if such a person also accepts abstract times (whatever that means). So imagine someone who accepts that individuals are trans-temporal spacetime worms, who persist through time by having various temporal parts, and yet does not believe that there are times other than the present. This is the presentist four-dimensionalist.<sup>32</sup> She believes that objects have temporal stages, and yet the only temporal stages that exist are the ones that exist presently. She may even believe that there are abstract times, which are abstract representations of the temporal facts of presently existing objects. These abstracta may *represent* what will be or was the case, but they don't make the past and future claims true – only the presently existing facts do that.

One of the consequences of such a view is that four-dimensional objects never exist in their entirety:

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<sup>31</sup> Many thanks to an anonymous referee for raising this point and others, which heavily contributed to the discussion that follows.

<sup>32</sup> See Brogaard (2000).



“objects, such as you and me, may have extended temporal parts even though these are parts which exist always only in the sense that they unfold themselves, incrementally, through their successive stages.” (Brogaard 2000: 346)

This may seem odd, but it is not incoherent. Likewise, in the modal case: an actualist lump theorist thinks that objects such as you and me have extended modal parts even though only the actual world (and the parts therein) are the only parts that exist. For the actualist, the only parts that exist, exist actually (in the actual world). Since the actual world is the only world that exists, ordinary objects never wholly exist (since they have modal parts that are not actual). Again: odd, but not incoherent.

Moreover, this allows us to give an elegant response to puzzles of coincidence, analogous to the lump theorist. Objects that overlap all of their actual world parts, still may differ in their non-actual parts. For comparison, consider how the presentist four-dimensionalist will account for spatial (but non-temporal) overlap. A lump of clay was lump-shaped, is now statue-shaped, and will be squished back into a lump-shape in the future. According to the presentist four-dimensionalist, the lump and the statue are now presently coincident in all of their presently existing spatial parts, yet they differ in their non-present temporal parts. This is how a lump is distinct from a statue, even if they presently overlap all of their spatial parts. Likewise, an actualist lump theorist may maintain that Goliath and Lump1 have the same actual world parts, but they differ in their non-actual parts – even though Goliath and Lump1 only ever partly exist (because all that exists, exists actually).

At this point it may be helpful to keep in mind what has been motivating our discussion. We began with the Modal Realism Worry as an objection to lump theory. Since lump theory assumes modal realism, then (the objection goes) if one rejects modal realism, one should reject lump theory. But I assumed that someone launching this objection is at least an abstractionist about possible worlds. And what I have done in the last few pages is show how someone can keep their commitment to actualism (and be an abstractionist about possible worlds) and yet also accept modal

parts. One might think that the resulting view is – again - a bit odd. But – again - it is not incoherent. More importantly, as far as the Modal Realism Worry goes, we do have a (conciliatory) answer.

However, I had said above that there are two moves to make in response to the Modal Realism worry: one conciliatory, the other stubborn. The stubborn response is to insist on modal realism. If the lump theory has as many advantages going for it as I claim (below), then perhaps we should rethink our prejudices against modal realism. Susan Hale (1991) argues that if one is a modal realist, then one should be a lump theorist (although she doesn't use this terminology). If lump theory has all the advantages I advertise, we should examine the reverse of this claim: if one is a lump theorist, then one should accept modal realism.

Either way, whether we commit to concrete or abstract possible worlds, the **Modal Realism Worry** can be answered. If you do not commit to worlds at all, then I have no ready response, except to point out all of the burdens of accounting for the modal truths without possible worlds. Unfortunately, I do not have the space in this paper to elaborate on this objection. I hope we may take some comfort in the fact that the Modal Realism Worry is traditionally launched by abstractionists, who do commit to possible worlds, so they have been the primary target of my response here.

#### 4.2 *The Relevancy Worry*

Suppose that all of the above is right, and that the modal realism worry can be allayed. Even so, why think that trans-world objects are metaphysically *relevant*?

I propose that we let an answer to the **Relevance Worry** be determined by utility. The theoretical advantages of our lump theory will determine whether trans-world objects are deserving of our attention.

Lump theory is theoretically elegant and gives a unified solution to puzzles of constitution and composition. For comparison: worm theorists maintain that one of the (better) reasons to think that a temporal parts theory is true is because of its ability to solve certain metaphysical puzzles.<sup>33</sup> A lump of clay is distinct from the statue it is molded into because both are temporally extended objects, with qualitatively distinct temporal parts. So, contrary to appearances, the statue and the lump of clay are not completely coincident; they merely overlap some of their spatio-temporal parts. Since overlap is unproblematic in the spatial cases (intersecting roads, e.g.), it is unproblematic in the temporal ones. Puzzle of co-incidence solved.

But temporal parts theory (on its own) has no solution to paradoxes of coincidence where the relevant objects have completely overlapping temporal careers. Take Gibbard's Goliath and Lumpl, for example.<sup>34</sup> A lump of clay, Lumpl, and a statue, Goliath, come into and go out of existence at the exact same time, existing in the exact same place, for the entirety of their existence. If Goliath and Lumpl have completely overlapping spatio-temporal careers, then there are not *two* coincident entities; there is just *one*. But this is unsatisfactory. There is something in front of us. What is it? A statue? A lump? Goliath and Lumpl have different modal properties: Goliath cannot survive being squished, but Lumpl can. So, according to Leibniz's Law, Goliath and Lumpl are distinct.

A temporal parts theorist may resort to a separate solution here—as Sider (2001) does.<sup>35</sup> But this is an admittance that temporal parts—by itself—does not deliver a unified answer to similar problematic cases of coincidence. Yet delivering a unified response to metaphysical puzzles of coincidence is supposed to be an advantage—and even an argument—*for* temporal parts.

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<sup>33</sup> See Lewis (1986), (1993), Sider (2001) Ch. 5, etc.

<sup>34</sup> Gibbard (1975).

<sup>35</sup> By adopting a particular view about *de re* predication. See Sider (2001) 5.8 pp. 205-8.

In contrast, a lump theorist has an answer to the forgoing coincidence puzzle, and one that is parallel to her spatial and temporal explanation of change. A road is bumpy here and smooth there by being an extended object that has one spatial part that's smooth and another spatial part that's bumpy. A person goes from being short to being tall by being a temporally extended object that has an (earlier) temporal part that is short and a (later) temporal part that is tall. Similarly, you *could be* tall by being a modally extended object that has one world part that is short and another world part that is tall.

You might think that temporal stage theory with Lewisian modal realism and counterpart theory would have similar theoretical advantages, since these views provide analogous explanation of temporal and modal difference. But the unification drops out at the level of spatial explanation. The spatial analog to stage theory and counterpart theory would be something like the following: individuals are region-bound spatial *bits*. Certain spatial claims about these objects may be true if the relevant spatial bits have the appropriate spatial counterparts. *The table is flat* iff the table (a spatial bit) has a spatial counterpart that is flat. So spatial counterparts make certain spatial claims true. Call this spatial analog the *bit-theoretic view*. To my knowledge, no one endorses the bit-theoretic view.<sup>36</sup> Yet considerations of overall theoretical unity would tie together this spatial view with stage and counterpart theory, making the entire package only as attractive as its least endorsed component: the bit-theoretic view. Without the bit-theoretic view, acceptance of stages and counterparts lacks the theoretical elegance of spatial and temporal worm views plus lump theory.<sup>37</sup>

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<sup>36</sup> It is quickly discussed (and dismissed) in \_\_\_\_\_.

<sup>37</sup> Perhaps one is willing to accept the bit-stage-counterpart package, and is not deterred by the lack of adherents of bit theory. This is certainly an acceptable move. Or at least I should think so – after all, I am not deterred by the lack of adherents to lump theory! So as far as unity and theoretical elegance go, accepting the bit-stage-counterpart package seems on equal footing with accepting the spatiotemporal-worms-lumps package. Unfortunately, discussing the advantages of one of these packages over the other will have to wait for another time. Thanks to an anonymous referee for comments in this section.

In the Goliath and Lump1 case, for example, the lump theorist will maintain that Goliath and Lump1 are each trans-world objects that merely overlap some of their world parts. One of the instances of overlap (this world, say) is one where they share all of their spatio-temporal parts. But what distinguishes Goliath from Lump1 is all of the world parts that do not overlap. Goliath cannot survive being squished, but Lump1 can. So Lump1 (the trans-world object) has a world part that is squished, but Goliath (the trans-world object) does not. The modal differences between Goliath and Lump1 are accounted for by qualitative differences of their modal parts. This mirrors our explanation of spatial and temporal coincidence, giving a truly unified solution to the puzzles, across the board. This is extremely theoretically elegant.

That lump theory delivers a unified solution to metaphysical puzzles is certainly one reason to think that trans-world objects (if they existed) are metaphysically relevant.<sup>38</sup> Whether some entities are (or could be) metaphysically relevant is a matter of how much work they can do for us, overall, in our ultimate metaphysical theory. I hope the above examples show just some of the ways trans-world entities can be incredibly theoretically useful. If so, then they are in fact metaphysically relevant (if they exist), which addresses the Relevance Worry.

#### 4.3 *The Causal Isolation Worry*

In response to the Causal Isolation Worry, it is true that world parts would not be causally related because, assuming modal realism, worlds are causally isolated. But I do not see why this in itself is a problem. And Lewis (1986) does not elaborate. It is a difference, surely, but what does the difference signify? Perhaps the point is something like this. There is a disanalogy between trans-

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<sup>38</sup> Lump theory also has other independent arguments in its favor, modeled after arguments for temporal parts. If you think that the Argument from Vagueness for temporal parts is convincing, for example, then there is a parallel Argument from vagueness for modal parts. I do not have the space to discuss this argument here, but see \_\_\_\_\_. You may not think that such an argument for modal parts is successful, so conditionally: if it were, then this would be yet another way to allay the relevancy worry.

temporal individuals (as the temporal parts theorist interprets them) and trans-world individuals. Trans-temporal individuals have parts that are causally related while the trans-world individuals have parts that are not. This disanalogy is enough to show that we shouldn't have analogous mereological views of individuals in the temporal and modal case. That is, we can have a mereological, *trans-temporal* view of individuals, but we cannot (or should not) have a mereological, *trans-world* view of individuals.

But this is a weak argument that a lump theorist could easily resist. Why should a lump theorist accept that the absence of causal relations between parts is enough to justify a non-mereological view of individuals? Clearly, she denies this. She accepts a mereological view of individuals across worlds and also accepts that these world parts are causally isolated from each other. So there has to be more than just mere intuition driving the complaint. Is there a principled reason for rejecting the claim that composite wholes can have causally isolated parts?

Perhaps the idea is that causation between parts is needed to account for gradual change (which is how Lewis pushes the point, as discussed in section 3). Temporally extended objects that gradually change over time can be explained by appealing to the causal relations between the parts of such an object. The leaf was green but now is red. The leaf is a temporally extended object that has some green parts and red parts, and the red parts are a causal effect of earlier parts being green. But there is no parallel for gradual change over worlds. That is, unlike gradual change over time, gradual change over worlds cannot be explained by causal relations between the relevant (modal) parts, because there are no causal relations between modal parts. So, objects must not be trans-world mereological sums.

But what do we mean by 'change over worlds' in any case? Puzzles of change over time are immediately motivating and relevant. We know what change over time is; many metaphysical puzzles of ordinary objects (Ship of Theseus, Tib and Tibbles, etc.) are the result of us reflecting on

this. But what is the modal equivalent to these concerns? Plausibly, the unfamiliarity is in calling it ‘change’—really, it’s just an object’s persistence conditions. An object’s modal profile includes conditions under which that object will and will not survive. The statue can be painted and survive but cannot be squished and survive. But these possibilities are incremental. It is possible that the statue has one small bit of paint on it. It is also possible that it has two small bits of paint on it. And so on. For any situation that is possible for an object, the difference between how that object is and how it *could* be (and how it couldn’t) comes in varying degrees. Lewis captures these varying degrees of possibilities by talking about ‘closeness’ of worlds. We can adapt something similar here. When we talk about the gradual ‘change’ of an object over possible worlds, what is meant is the degree to which a possibility varies from the actual world. Take any diachronic puzzle of change and one can transfer the problem to one across worlds—a *dia-cosmic* puzzle involving the object’s tolerance for possible variation.

Can we understand dia-cosmic change even admitting that worlds (and objects in those worlds) are causally isolated? I don’t see why not.

Take the case of mere *spatially* extended objects. It is not necessary that some spatial parts of a spatially extended object are causally connected in order to account for the fact that the object changes (spatially). A stretch of road may have sections that are (relatively) causally isolated, yet the road changes from bumpy to smooth. My body (spatially) changes from being hand-shaped in one region to being head-shaped in another. It is true that my head and my hand are causally connected, but this doesn’t *account* for the change in shape across the spatial region of my body. What accounts for it is simply qualitative difference of spatial parts of a spatially extended whole. And what counts for a *gradual* change over a spatial region is qualitative difference between spatial parts as well as gradations of similarity. The landscape *gradually* changes from mountain to valley by having spatial parts that differ qualitatively and by having those parts resemble (or differ) from each other in

incremental degrees. But no appeal to the causal relations of the relevant parts is needed to account for gradual change over spatial regions. So why should we require such an appeal to account for gradual change over possible worlds?

We can account for gradual change over possible worlds by appealing to qualitative difference between world parts, and by having those parts resemble (or differ from) each other in incremental degrees. I admit that none of these parts will be ‘adjacent’ to each other as in the spatial case, but why is this necessary? We can take advantage of the notion of ‘closeness’, which can do the work that ‘adjacent-ness’ does in the spatial case.

Spatially extended objects with spatial parts and modally extended objects with modal parts are on a par here. The relevant parts lack significant causal dependence yet nonetheless there can be gradual change (over space or possible worlds). That is, in both the spatial and modal case we do not appeal to causal dependence of the parts to account for gradual change over space or worlds, respectively; we can easily account for gradual change in other ways. So assuming we accept spatially extended (composite) objects, and gradual change of such objects over spatial regions, then we should not claim that causal dependence is necessary for gradual change.

So, yes, there are no causal relations between world parts. But this is no problem, as qualitative difference and similarity relations (and closeness of worlds) will be sufficient to account for gradual change (over worlds).

#### 4.4 *The Pathology Argument*

A lump of clay is molded into a statue. How many things are in front of us? Common sense says one. The temporal worm theorist says that we are only seeing part of two much ‘larger’ trans-temporal objects, which are qualitatively distinguished by later temporal parts. But this is an admittance that the number of things there are at any one time (the time of overlap, say) is greater



than we intuitively thought, and this is supposed to strike us as peculiar. Moreover, this seems to make the number of objects extrinsic to the time in question, which is also supposed to be peculiar.

Yet is this really so bizarre? Take a spatial case instead. Suppose I point to the intersection of Bardstown Rd and Eastern Parkway. Isolate just the section of overlap, the intersection. Do we have one thing or two? Silly question, we might think. Are we counting roads or sections of road? If we're counting roads, we have to look outside of this spatial region to see how many roads there are—for sometimes intersections involve more than two roads passing through them. So the answer is one if you are counting particularly-sized sections of road, two (or more) if we are counting roads. In such a case, there may be more than just the one thing in front of us, and the number may be 'extrinsic' to the (exact) place in question.

This answer proliferates, given the abundance of spatial overlap. My fingers overlap my hand but they are distinct from it. I point to my hand. How many things are there? Well, one if we're counting hands, five if we're counting digits. I point to a table. How many things are there? Well, one if we're counting tables, two (or more) if we're counting parts of tables. Spatial composition is everywhere (many of us assume), and where composition occurs, the parts overlap the whole. The answer in any given case of spatial overlap is not easy, and may be relative to what I have in mind when I'm pointing. My aim here is not to diagnose the correct answer to 'how many?' questions, but rather to show how supposedly peculiar cases of fission are not so peculiar or unusual after all. Complicated answers to counting questions occur not just in *recherché* science fiction cases, but in ordinary, ubiquitous cases of (spatial) overlap, and in all instances of composition, where parts overlap the whole. The supposed 'pathology' is abundant in the spatial case. Does that mean we should abandon our commitment to spatially extended composite objects? No. Likewise, the abundance of such 'pathology' in the modal case does not mean we should abandon modally extended objects.

Moreover, it may be true that there are, in fact, relatively few cases of fission of *persons* as described in science fiction and philosophy classrooms. But other temporally extended cases of fission may be less exotic: companies merge and split; events splinter off into other events; as do eras, wars, corporations, teams, childhood, adulthood, paper drafts, books, fan fiction, etc. So it is not even clear that in the temporal case fission are so exotic—for persons, maybe, but not for other temporally extended composites.

To press the above points further, consider the Problem of the Many.<sup>39</sup> We think that there is just one table in front of us. Yet the table is composed of many molecules. Take the group of molecules that we think compose this table:  $m_1, m_2, \dots, m_n$ . There is another, distinct group of molecules  $m_1, m_2, \dots, m_n, m_{n+1}$  in the area. And there is another, distinct group of molecules  $m_2, m_3, \dots, m_n$ . And so on. Each distinct group of molecules is an equally good candidate for being the molecules that compose a table; each is an equally good candidate for *being* the table. So either they are all tables or none of them are. So there are many tables or there are none. But either way this contradicts our assumption that there is exactly one table.

We do not ordinarily think of the problem of the many as spatial problem of fission.<sup>40</sup>

Indeed, some maintain that these are separate issues.

“...the problems about counting raised by the problem of the many are orthogonal to those raised by the paradoxes of coincidence. Once the problem of the many is solved in some acceptable way, the co-incidence-based problems remain...” (Sider 2001: 192)

But even if this is right, it is irrelevant given our concerns. The purpose of making the comparison between the problem of the many and cases of fission here are to see if Lewis’s reasons for rejecting lump theory are credible.

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<sup>39</sup> See Unger (1980) and Geach (1980).

<sup>40</sup> See Lewis (1993) and Sider (2001) 192-3, where he argues that the problem of the many is distinct from coincident fission problems. Sider’s reasons for distinguishing fission problems and the problem of the many are to motivate his preference for stage theory, and need not concern us here.

Take one of Lewis's preferred solutions to the problem of the many. There are many distinct sets of molecules, all of which are equally good candidates for composing (or being) the table. So we either have too many tables or none, neither of which coheres with our opinion that there is only one. It is strictly true, according to Lewis, that there are many tables there. But because the many tables overlap to such a high degree (indeed, by stipulation, any two differ by only a molecule or two from any other), the many tables are almost identical—i.e., they are *almost* one.<sup>41</sup>

Contrast this with the pathological modal case. Suppose for a moment that lump theory is true. The lump theorist will claim—along with common sense—that there is just one table in front of us.<sup>42</sup> Take the group of world parts that the lump theorist thinks compose this table:  $wp_1, wp_2, \dots, wp_n$ . There is another, distinct group of world parts  $wp_1, wp_2, \dots, wp_{n-1}$  and  $wp_{n+1}$ . One of these groups includes  $wp_n$ , while the other includes  $wp_{n+1}$  instead of  $wp_n$ . We can imagine that  $wp_n$  and  $wp_{n+1}$  are individuals that would—on Lewis's view—qualify as counterparts of  $wp_1$ , but would not qualify as counterparts of each other. And there is another, distinct set of world parts  $wp_1, wp_2, \dots, wp_{n-1}$  and  $wp_{n+2}$ , such that  $wp_{n+2}$  would also qualify as a counter part of  $wp_1$ , even though  $wp_n$  and  $wp_{n+2}$  are not counterparts of each other. And so on. Each distinct set of world parts is an equally good candidate for being the world parts that compose our table, so each is an equally good candidate for *being* the table. So either they are all tables or none of them are. So there are many tables or there are none. But either way this contradicts our assumption that there is exactly one table. Yet, according to lump theory, the table candidates overlap significantly many of their world parts! Because the many tables overlap to such a high degree, one could make the Lewisian

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<sup>41</sup> Lewis (1993)

<sup>42</sup> The lump theorist will no doubt be more careful and explain that there is just one table *partially* in front of us—i.e., the table is a trans-world object that has many world parts.

argument that the many tables are *almost* identical—i.e., they are *almost* one. So a solution to the spatial problem of the many transfers over to the modal problem of pathology.

What's more, it is Lewis's very own solution to the problem of the many that can be transferred over to the modal cases he finds so disturbing. So if he thinks that he has a solution (or two) to the problem of the many, then we can simply apply this solution (or two) to the modal cases, thus undermining the 'pathology' complaint.

The Pathology Argument relies on the claim that cases of temporal fission are unusual, but not so in the modal case. I claim that (i) cases of *spatial* fission are not so unusual, and in fact are ubiquitous, (ii) that temporal cases of fission are not unusual either, if we consider entities beyond persons, and (iii) the modal cases can be solved by our favorite solution to the problem of the many; if a solution is granted in the rare cases, then such a solution should work in the more common cases. If all of this is right, then the fact that pathology abounds in the modal case is no reason to reject trans-world lumps. If we did think this, then we risk rejecting ordinary trans-spatial (and some ordinary trans-temporal) objects as well, which I'm assuming we do not want to do. So: yes, in the modal case, the supposed pathology is everywhere. So what? The abundance of fission in spatial and temporal cases shows that the pathology is familiar and unproblematic.

#### 4.5 *The Argument from Self-Interest*

On one (uncharitable) read, the Argument from Self-Interest may be no more than a kind of intentional fallacy coupled with a fallacy of composition: I care about this worldly part, I don't care about my other worldly parts, so I cannot be identical to a sum whose parts include this-worldly and other-worldly parts. This isn't your typical intentional fallacy, of course, since the claim is not that some this-worldly part is identical to an other-worldly part (and you care about one, say, and don't care about the other, thus they cannot be identical). Rather, the claim is that if you were a trans-

world object, you would have all of these world parts with whom you should have collective self-interest or care. But you don't care about other-worldly creatures; you only care about this-worldly creature. So you can't be (identical to) a trans-world object with different modal parts.

This line of reasoning is flawed for the two reasons I claimed above: it is an intentional fallacy combined with a fallacy of composition. It is an intentional fallacy because having (or lacking) a particular attitude towards something does not entail metaphysical features of that object—in particular, it does not entail whether that object is identical to something you have an opposing attitude towards (under a different mode of presentation, say). No amount of my insisting that I care about my son but don't care about the boy in the monkey suit will prove that my son is not the boy in the monkey suit. Likewise, no amount of insisting that you care about this-worldly things and don't care about other-worldly things will entail metaphysical facts about those things—in particular, it won't entail that they are not parts of a trans-world composite object that is identical to you. It is a fallacy of composition because properties of the parts do not always percolate to properties of the whole. The cells composing my body are invisible, but that does not entail that I myself am invisible. Having a certain attitude towards certain this-worldly things, but lacking that attitude towards certain other-worldly things, does not entail that one has (or lacks)—or should have or should lack—an attitude towards the composite whole of which the this-worldly and other-worldly things are parts. So if this is what the Self-Interest Argument is, it can be dismissed as doubly fallacious.

The above discussion and the Argument from Self-Interest in general may sound strangely familiar. This is because the Argument from Self-Interest is similar to an objection that is typically launched against Lewis's own modal realism—and in particular, counterpart theory. Sometimes known as The Humphrey Objection (Kripke) or The Argument from Concern (Rosen), the objection against modal realism and counterpart theory is as follows: Humphrey, after losing the election in 1972, cares very much about whether he could have won the election. But, presumably,

he cares very little about whether some stranger, non-identical to himself, existing in some spatio-temporally and causally isolated world has won the election, even if this stranger is very much like him in whatever ways you please. So Humphrey's *de re* modal facts are not identical (or reducible) to the activities of some counterparts in isolated possible worlds.

Most do not take the Humphrey Objection to be effective against counterpart theory. For one thing, if there is a kind of intentional fallacy lurking, then the complaint is invalid. For another, it is question-begging against Lewis's view. If Humphrey cares about what could have been, then Humphrey *does* care about the going-ons of a stranger in a spatio-temporally and causally isolated world—for according to Lewis, that's just *what it is* for certain modal facts to hold of Humphrey.

What goes for the Humphrey Objection goes for the Argument from Self-Interest. According to lump theory, *you* are a trans-world object that has many world parts. Your this-worldly part may think that she does not care about other-worldly parts. But she does! Your this-worldly part cares about other-worldly parts in virtue of the fact that you care about what can and cannot happen to you. You may get inspired to run a marathon because you think that you *can*. The possibility of success often encourages us to act. Now, true, you likely do not think of yourself *as* a trans-world individual who has other-worldly parts who run marathons and succeed. But you think modally, about your potential, and these modal truths inspire you to take certain courses of action. According to lump theory, these modal truths are grounded in what your other-worldly parts are doing. You, the trans-world object, do not have mental states except in virtue of having world parts that have mental states. So you, the trans-world object, may have collective self-interest just in case there are world parts that care about other-worldly parts. But there is! Your this-worldly part cares about your other-worldly parts, insofar as your this-worldly part cares about what's possible and impossible for you. And presumably other of your modal parts care about your this-worldly part, insofar as your other worldly parts are modally interested in themselves.

Moreover, we also often consider (or hope) that our moral character is a deep one—i.e., we hope that we retain our moral virtues in counterfactual situations. If you are brave, you hope that you are brave even if the situation is slightly altered. We desire that our virtues have stability. Insofar as this is important to us, then if the lump theorist is right, we *do* care about what our other-worldly parts are doing—in particular, we care about what our close world parts are doing.

One way to make the Humphrey Objection to have more force is to frame it as a metaphysical complaint: strangers in spatio-temporally isolated worlds are *not the sort of thing* that one *can* have propositional attitudes towards, whereas modal truths are, so the former cannot be the latter. One might interpret the Argument from Self-Interest similarly. Lewis maintains:

“The supposed trans-world person...is not the sort of integrated self that is *capable* of self-interest.” (1986: 219, my emphasis)

That is, something must be in principle *capable* of self-interest in order to be an adequate account of persons. But *being capable of self-interest* is a modal claim, and one that a lump theorist can account for. You—the trans-world object—are capable of self-interest just in case you have a world part that is self-interested (or is interested in other-worldly parts). This follows from the lump theorist’s general schema for modal predication: a lump *L* is possibly *P* iff *L* has some world part that is *P*. According to lump theory, any modal concerns your this-worldly part has *is* a concern about other-worldly parts. So you (the trans-world object) *are* capable of self-interest!

Is this enough to account for an ‘integrated self’? Enough, it would seem, to roughly parallel the integrated self and collective self-interest we (presumably) have for our spatial and temporal parts. Our this-worldly parts may have a preference for certain good things happening in this world, but I do not see how that is much different than (in the temporal case) *this* temporal part wanting

good things *now*, or (in the spatial case) *this* spatial part wanting good things *here* and not there.<sup>43</sup> So, it seems, our trans-world self *does* have a kind of collective self-interest, making modal parts theory more plausible.

There is much more to say here, of course—both in response to the five objections raised, and to other objections that surely await the lump theorist. But I hope the above defense at least paves the way for making modal parts a competitive metaphysical view of ordinary objects.

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<sup>43</sup> There is an interesting comparison here between the above line of reasoning and the intuitions behind ‘thank goodness that’s over’ arguments against four-dimensionalism or eternalism. Unfortunately, discussion of this issue will have to wait for another time. See Prior (1976)



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