Chapter 1

<u>Parts and Wholes</u>

1. Motivation: Why Worry about Parthood?

Here is one commonsense truism: the world abounds with lots of various sized objects. There are desks and chairs and rocks and trees. There are people and pubs and beers and eggs. Just look around; such things are everywhere. Let us call this the Existence Assumption.

<u>Existence Assumption</u>:   Ordinary objects (rocks, trees, etc.) exist.

Here is another: these various sized, ordinary objects are made up of parts. Desks have drawers and legs and tops; chairs have legs and seats. Rocks are made of smaller rock bits; trees have roots, trunks, branches, and leaves, etc. Let us call this the Parthood Assumption.

<u>Parthood Assumption</u>:   Ordinary objects (rocks, trees, etc.) have parts.

Now, there may be an issue about what it is for an object to *have* a part. What is this *having* relation that holds between an object and its parts? And we might wonder whether for any object there is, whether this object's parts have parts. Are there parts all the way down, for example? Is there a point at which the fundamental elements that are parts of an object simply cannot be broken down into any more

parts? These are legitimate worries, but let us leave these particular concerns aside for now.

What I want to focus on now is how the two commonsense truisms—the Existence Assumption (EA) and the Parthood Assumption (PA)—while seemingly intuitive and innocuous, actually cause quite a bit of trouble for philosophers. Primarily, this is because the two assumptions give rise to what I shall call the Arbitrariness Thesis.

Arbitrariness Thesis: There is no non-arbitrary distinction between parts that make up an object and parts that don't.

Most of us (initially) think that the Arbitrariness Thesis is *false*. We think that there is a difference between, say, my cat Nacho, which *is* an object in the world, and the sum of Nacho's left paw and the Statue of Liberty's right foot, which is *not*. We don't think, most of us, that just any old things you please 'thrown together' will make an object. Yet just why we think this, and whether we are justified in thinking this, are issues that are up for debate. Moreover, it seems that a closer look at our intuitions about ordinary objects—in particular, EA and PA—lead us *to* the Arbitrariness Thesis, rather than away from it.

Suppose that EA and PA are true: there are various-sized objects in the world, and these objects have parts. And let us suppose that EA and PA are made true because all there is in the world is a cat, a dog, and the Statue of Liberty. Each of these objects has parts: legs, tails, torsos, toes, etc. Supposing all this, however, one might think that there is a determinate answer to how many things, or what kind

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of things are in this world[1]: there is the cat, the dog, the statue, and all of the parts that compose these objects. That's it! But *why* is this it? Why don't we count among the things in this world the *sum* of the cat's tail and the Statue of Liberty's left toe? Or the *sum* of all three of the cat, the dog, and the statue?

Once we have admitted that there are objects, and that these objects have parts, then it seems we have unwittingly assumed a difference between objecthood and non-objecthood. If we say that there *are* some objects, then we should have an idea of the identity criterion for objecthood; we need to know what is it for something to *be* an object (as opposed to not) in order to justify the claim that there are indeed objects. Moreover, if we admit that there are parts, and that objects are made up of parts, then we should have an idea of the difference between parts that make up an object and parts that do not.[2] Why can't any random parts make up an object? Why can't any random parts make up a cat, for example?

My cat Nacho is an ordinary object that has as parts four legs, a body, and a tail. And let us suppose (implausibly) that this is all of the parts that compose him. But if four legs, a body, and a tail are all the parts of my cat, then why isn't there a cat that's made from Nacho's legs, your body, and your dog's tail?

"Well, perhaps," you might be thinking, "*cats* can only be made from *cat parts*; adding a dog's tail and a person's body to my cat's legs does not a cat compose." Fair enough. So take *different* cat parts from all of the cats in your neighborhood.

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[1] A version of this worry will be dealt with extensively in Chapter 2.

[2] Van Inwagen calls this the *Special Composition Question* [1990].

Take Fluffy's tail, Ms. Kitty's legs, and Spot's body. *Still* we do not have a cat. So it cannot be that mere cat parts make a cat.

"Well, of course," you explain, "the parts have to be *connected*; they have to be attached! Cats are made of *connected* cat parts." That attachment could make the difference between a cat and not a cat could be disproved easily with some rather freakish surgery. Luckily, we can make the same point with a less disturbing example. Take your desk and your cell phone. Now take some superglue and affix your phone on the side of your desk. Intuitively, the superglued phone-desk is not a *new* object. Or imagine that we have a fuse-machine, which will take any two objects and yield a smoothly fused product. We put the desk and your phone in the machine, and out pops an object that looks just like the superglued phone-desk, minus the hardened superglue. Still, we don't seem to have a *new* object; just two old ones fused together. If it is protested that objects have to have certain object-specific parts, like cats have to be composed of cat-parts, then take your desk and lop off a leg. Now lop off a leg from your officemate's table as well, and throw both it and your amputated desk into the fusion-machine. Out pops a desk, surely. But an entirely new desk? Or just *your* desk with a replacement part? Intuitively, it is still your desk, merely refurbished with a prosthetic limb.[3] So attachment cannot be enough for the making of distinct objects.

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[3] Issues about identity over time, survival over change, and other constitution puzzles will be addressed in Chapter 4. For a brief note on the (apparent) difference between composition and constitution, see below, footnote 17.

What's more, attachment is not only not sufficient for creating an object, it's not necessary either. It might be true that lots of ordinary objects like cats and desks and cell phones have lots of attached parts.[4] But there are also lots of ordinary objects that seem to have detached—or, at least, detach*able*—parts. Philosophers are fond of calling these sorts of objects *scattered* objects[5]. Perhaps you had an insufferable older brother (as I did) who was fond of playing '52 Pick-up.' If so, then it didn't take you long to realize that a *scattered* deck of cards is still a deck of cards. None of the cards need be touching—there could be one in every corner of every room in your (spacious) house, e.g.—yet it would still be an object, a deck of cards. Another example: perhaps when you were older, you were sent on an errand to pick up an item: a case of beer. Once delivered, you realized the case could be scattered and distributed (and quickly consumed!). But the case's detachability makes it no less of an object than a rock or a tree. Not to mention all of the scattered objects that we encounter daily: we can see a galaxy, a crowd of people, a heap of trash, a cloud. None of these objects is any less of an object simply because the elements that compose it are scattered. And, really now. Let's be rigorous. When we get right down to it, ordinary objects such as rocks and trees have small, molecular parts that,

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[4] As long as we are understanding 'attached' in a loose, folk-notion way. See below, and footnote 5.

[5] See: "Scattered Objects", in Keith Lehrer, ed., *Analysis and Metaphysics* (Dordrecht: Reidel, 1975): 153-171. Reprinted in *Philosophical Essays*: 171-186, Chisholm R. M., 1987, `Scattered Objects', in J. J. Thomson (ed.), On Being and 36 Saying: Essays for Richard Cartwright, Cambridge (MA): MIT Press, pp. 167-173.

technically, are not attached. Attachment, or *contact*[6], more specifically, seems to be an illusion that is dispelled as soon as we look closely under powerful microscopes.[7]

So we may all agree that there are lots of objects in the world (EA). And we may all agree that these objects have parts (PA). But some reflection reveals we are not at all clear on why certain parts make an object while other certain parts don't. We don't fully understand *how* it is that certain object can have parts, even though we're sure that these certain objects exist and we're sure that these certain objects are made of parts. Put yet another way: there doesn't seem to be any principled way—ontologically speaking—to demarcate parts that compose objects from parts that don't.[8] We are led, then, to holding the Arbitrariness Thesis, even though such a thesis may seem unintuitive and cuts against our usual way about talking about objects in the world.

This, then, is just one of the reasons why we should worry about parthood. It will illuminate us as to how and why we hold EA and PA, whether we *should* hold them, and how we might be able to either make peace with the Arbitrariness Thesis, or else find a way to make a non-arbitrary distinction between what counts as an object and what does not. Worrying about parthood, in other words, may help us to

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[6] See Hud Hudson, *The Metaphysics of Hyperspace*, ch. 3. Oxford University Press, 2005.

[7] This point about attachment or contact will be discussed quite extensively in Chapter 5.

[8] In fact, the lack of such a demarcation is what has led many to eliminativist views about objects or objects' parts. Van Inwagen and Unger, for example both reject at least one of our two commonsense truisms—Unger rejects the Existence Assumption, whereas van Inwagen rejects (at least) the Parthood Assumption, and perhaps even the Existence Assumption, depending on how you interpret his thesis about what ordinary objects *are*. See Van Inwagen (1990) and Unger (1979).

solve some tricky metaphysical puzzles that arise out of some seemingly intuitive assumptions we hold about ordinary objects.

2. Parthood: Composition and Mereology

2.1   Composition

There are many different theories about parthood and how this relation helps us understand the metaphysics of ordinary objects.[9] Some say that there are certain parts, which *compose* certain wholes, and that this composition relation is essential for understanding what makes an object an object. Others think that there is no such thing as the composition relation—that there are many, many parts, all arranged in-a-specific-way-wise, but none of which compose to form certain wholes.[10] In what follows, I am going to be assuming that there *is* such a thing as the composition relation, and that this relation is essential to understanding what makes an object an object. I maintain that if we can correctly capture what it means for some parts to

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[9] See: Burkhardt, H., and Dufour, C. A., 1991, 'Part/Whole I: History', in H. Burkhardt and B. Smith (eds.), *Handbook of Metaphysics and Ontology*, Munich: Philosophia, pp. 663-673. Henry, D., 1991, *Medieval Mereology*, Amsterdam: Grüner. Simons, P. M., 1991, 'Part/Whole II: Mereology Since 1900', in H. Burkhardt and B. Smith (eds.), *Handbook of Metaphysics and Ontology*, Munich: Philosophia, pp. 209-210. Smith, B., 1982, 'Annotated Bibliography of Writings on Part-Whole Relations since Brentano', in B. Smith (ed.), *Parts and Moments. Studies in Logic and Formal Ontology*, Munich: Philosophia, pp. 481-552. Smith, B., 1985, 'Addenda to: Annotated Bibliography of Writings on Part-Whole Relations since Brentano', in P. Sällström (ed.), *An Inventory of Present Thinking about Parts and Wholes*, vol. 3, Stockholm: Forskningsrådsnämnden, pp. 74-86.

[10] See Unger, Merricks, and Van Inwagen (Van Inwagen only says this for non-humans).

compose a whole, then we will gain some insight into the metaphysical puzzles alluded to above, and many more besides.

One of the upshots of my discussion of the composition relation will be to show that the Arbitrariness Thesis, contrary to our *prima facie* intuitions, is *true*. The theory of composition that I am defending here will show quite nicely, I think, that there is no principled way—ontologically speaking—to demarcate parts that compose objects from parts that don't, and so no demarcation is called for. This means that, contrary to some initial intuitions, 'throwing together' any old random parts you please *will* make an object. But given my views on composition, this will be shown to be perfectly acceptable.

Along the way, I will be assuming (i) that there are lots of objects in the world such as rocks and trees and things (EA), and (ii) that these objects (and then some) are composed of parts (PA). So, one of the results of my project will be to show that we can simultaneously (and happily!) hold EA, PA, and the Arbitrariness Thesis.

2.2   Mereology

One traditional way to make sense of the composition relation is by way of *mereology*, or the study of parts and wholes. Mereology was developed as an alternative to set and class membership relation, to possibly avoid difficulties that

result from naive-set theory.[11] The idea was to take 'parthood' as a primitive notion, which we can represent as:

Pxy = 'x is a part of y'

Such a relation is (typically) assumed to obey the following relations:

Reflexivity: $\forall x$ (Pxx)

Antisymmety: $\forall x \forall y$ ((Pxy & Pyx) $\rightarrow$ x = y)

Transitivity: $\forall x \forall y \forall z$ ((Pxy & Pyz) $\rightarrow$ Pxz)

Mereologists also claim that whenever we have two things, *x* and *y*, there is a further thing, *z*, which is the *mereological fusion* of *x* and *y*. Mereologists (typically) claim that there is one and only one fusion composed of particular parts (uniqueness) and that for any two (or more) things, there exists a fusion of those things (universality).

Some maintain that universality is much too strong because it will invite unwanted objects into our ontology. Suppose we have my coffee mug here and my cat, Nacho, over there, for example. And assume, as commonsense does, that coffee mugs and cats are relatively uncontroversial, ontologically speaking.[12] According to the mereologist who accepts universality, however, we also have a further thing—the *mereological sum* of my coffee mug and Nacho (call it Muggo); the mereological sum, Muggo, is as much of an ontological entity as is my mug and my

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[11] See Lesniewski, Goodman, et. al.

[12] Again, some philosophers famously deny the existence of such composite, bulky goods. (See Unger (1979), Van Inwagen (1990), and Merricks (2006), for example.)

cat. Indeed, if we were to make a list of all of the things in the universe—all of the things that we can count and name and quantify over, etc.—Muggo would be on the list, along with rocks and trees and mugs and cats and a myriad of other ontologically uncontroversial things. Because such mereologists allow any mereological sums whatsoever into our ontology, this is often called Unrestricted Mereology.

One of the advantages of accepting Unrestricted Mereology is that we need not have some arbitrary, unprincipled distinction separating objects from non-objects. *Whenever* there are some parts, there is also a whole—a sum of these parts. And this sum is as much an object as the parts which make it up. So the worries voiced in the introduction will dissolve since whether some parts are attached or not, or attached in a particular way, or are specific sorts of parts, etc. is irrelevant. Sure, it may be that lots of objects are not worth mentioning or talking about. The mereological sum of my couscous salad and my left running shoe, for instance, is not an object we have much need for thinking about (except for the purposes of this example). So there are lots of objects that we don't ever think about, that don't even have proper names, and never occur to us as being objects at all. But this is just a matter of our psychological preferences and practical needs; it has no bearing on the actual ontological underpinnings of the world. Just because some objects are convenient for us to label and think about has no metaphysical impact on what counts as an object, ontologically, and what does not. We shouldn't be beholden to an anthropocentric metaphysical worldview; to do so is just an inexcusable form of ontological prejudice.

Despite the theoretical advantages, however, Unrestricted Mereology nonetheless rubs some the wrong way. Some of the main complaints against it center on the charge that its ontological costs are too expensive. Assuming our ontology is guided by a healthy balance of explanatory power and parsimony, mereology is suspected of being too ontologically extravagant for its own good. "Just think of how many things you want me to be committed to!" complains that anti-mereologist. For the mereologist, if she is right, is seemingly going to add considerably to the population of our universe. This is because for any two (non-overlapping) things in our universe we are already committed to, the mereologist will posit a third. And once we add this third thing, then other mereological sums—such as the mereological sum of Muggo and my sunglasses—will abound. So depending on how many entities we think populate the universe prior to a commitment to mereological sums, adopting a commitment to (unrestricted) mereology may result in an overwhelming expansive ontology.[13] This expansion will be unnecessary if any of the work that mereological sums do can be done by things that are not mereological sums.

3. Composition as Identity: 3 Varieties

To escape the charge of unnecessary ontological overpopulation, many mereologists have insisted that their view is ontologically *friendly*. They have

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[13] I am assuming that ontological parsimony is a virtue of metaphysical theory-building. See section 5 of this chapter for elaboration.

primarily done this by looking at the relation between a mereological sum and its parts. Some say that if this relation between parts and wholes, composition, is one of identity—or even if it is something close to or *like* identity[14]—then in committing oneself to mereological sums, one is not thereby committed to something further, or something over and above, the parts. If a commitment to mereological sums is not a further commitment over and above a commitment to the parts, then there is no ontological reason to reject mereological sums, no matter how puritanical one's ontological standards are.

There are at least three different varieties of Composition as Identity: The Weak Composition Thesis (WCT), The Strong Composition Thesis (SCT), and the Strong*er* Composition Thesis (RCT).

3.1 Weak Composition Thesis (WCT)

In *Parts of Classes*, David Lewis claims that mereology is ontologically innocent. He insists that this follows from his commitment to the *Weak Composition Thesis*: [15]

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[14] See Lewis, David 1991: 72-87.

[15] This thesis, and the Strong Composition Thesis stated below, is formulated by Byeong-Uk Yi in [Yi 1999: 141-160].

Weak Composition Thesis: the predicate 'are' used to indicate the composition relation is only *analogously* another form of the 'is' of identity.

He claims that composition is not *strictly* identity but rather only *sort of* identity; that the 'are' of composition and the 'is' of identity are at best only analogous. Lewis explains this view of composition as follows:

> "…mereological relations…are something special. They are unlike the same-mother relation or the average-of relation. Rather, they are strikingly anlagous to ordinary identity, the one-one relation that each thing bears to itself and to nothing else. So striking is this analogy that it is appropriate to mark it by speaking of mereological relations—the many-one relation of composition, the one-one relations of part to whole and of overlap—as *kinds of identity*. Ordinary identity is the special, limiting case of identity in the broadened sense." [1991: 84-5, my emphasis.]

If composition is *like* identity, but not *exactly* identity, Lewis claims, then it can reap the ontological advantages that result from a stronger thesis like the Strong Composition Thesis (see below), while avoiding the seemingly devastating objections SCT purportedly faces.[16] In short, WCT is a way of having your cake and eating it, too.

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[16] See below.

3.2   Strong Composition Thesis (SCT)

A second, and perhaps more straightforward way to show that mereology is ontologically friendly, is to commit to the *Strong Composition Thesis*: [17]

Strong Composition Thesis:	the predicate 'are' used to indicate the composition relation is *literally* another form of the 'is' of identity.

Those who accept the Strong Composition Thesis (SCT) claim that whenever there is a mereological sum—or fusion—of something, that fusion or whole is literally identical to all of its parts. This does not mean that each of the parts, *taken individually*, are identical to the whole. Rather, that the parts—*taken together*—are identical to the whole.[18] And since, according to this view, the parts are *literally* identical to the whole, there is no problem getting the fusion of parts for free: the parts just *are* the whole, the whole just *is* its parts; so *of course* the whole is no further ontological commitment given that you are already committed to the parts.

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[17] Notice that—so far—I am concerned only with *composition* as identity, not *constitution* as identity. One (apparent) difference between composition and constitution is that composition is purportedly concerned with the relation between one and many—e.g., a whole and its parts. Constitution is purportedly concerned with the relation between just one thing and another—e.g., a statue and the lump of clay that makes it up. In Chapter 4, I will explore the relation between *composition* as identity and *constitution* as identity, and show that any purported distinction between the two relations collapses on my view.

[18] This depends on the difference between distributive and collective identity, which will be discussed in detail in Chapter 3, sections 3.2, 5.1, and 5.2.

One implicit assumption made by SCT is that the identity relation is the classic identity relation that we've learned at our mother's knee. She is transitive, reflexive, and symmetric. She is unambiguous and intuitive. She also obeys the Indiscernibility of Identicals, and (perhaps) the Identity of Indiscernibles.[19]

3.3   Strong**er** Composition Thesis (RCT)

Contrast SCT with those who would like to claim (i) that composition is—not *is like* or *analogous* to—but literally *is* identity, yet (ii) identity is a different sort of relation than we may have supposed. In particular, this view claims that identity does not obey the Indiscernibility of Identicals. This means that, surprisingly, something can differ from itself. Endorsers of this view would be committed to the *Strong*er *Composition Thesis*:

Stronger Composition Thesis: the predicate 'are' used to indicate the composition relation is *literally* another form the 'is' of identity. In addition, identity does not obey the Indiscernibility of Identicals.

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[19] Since this last one is a bit controversial, I will leave it aside for now. [See: Max Black, "The Identity of Indiscernibles," *Mind*, Vol. LXI, No. 242, 1952. Etc.] As far as I can tell, support for or against the Identity of Indiscernibles does not hinge on one's position on composition, so it will be irrelevant for my purposes here.

Donald Baxter[20] claims that the Stronger Composition Thesis (RCT) is the only viable option for those that want to embrace Composition as Identity (CI). Moreover, he claims that puzzles about composition are *evidence* that our intuitions about identity are what are in need of revision, not our views about the relation between parts and wholes.[21, 22] He claims:

> "Countenancing the discernibility of identicals…ought not be regarded as accepting contradiction. Consider alteration. On the face of it, the same thing becomes different. This thing as it now is differs from itself as it was. That in such a case something differs from itself is as plain as day. So there is some way for something to differ from itself without contradiction."[23]

Baxter claims that cases of change over time, cases of fission and fusion, etc., all go to show that it is our concept of identity that is in need of revision, not our views of composition. Once we realize that composition is identity, but that the identity relation does not obey the Indiscernibility of Identitcals, then we can show easily how the parts of an object are identical to the whole. And so it can be no objection on his

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[20] See Donald Baxter: "Many-One Identity," *Philosophical Papers* 17 (1988), pp. 193-216; "Identity in the Loose and Popular Sense," *Mind* 97 (1988), pp. 575-582; "The Discernibility of Identicals," *Journal of Philosophical Research* 24 (1999), pp. 37-55; "Identity, Discernibility, and Composition," (MS) [2007], and in personal correspondence.

[21] See Baxter's new material (MS). Also, there are hints of this view in his old paper "Identity in a Loose and Popular Sense."

[22] Fans of Relative Identity may be friendly to RCT, although for reasons independent from issues of composition.

[23] "Identity, Discernibility, and Composition," (MS) [2007].

view to point out that the parts are many while the whole is one, hence, the parts are not identical to the whole. For Baxter allows that an object can differ from itself.

3.4   A Quick Note about the Nomenclature

Incidentally, I do not think that these three theses—WCT, SCT, and RCT—are aptly named. In particular, the so-called Strong*er* Composition Thesis (RCT) is not exactly a stronger thesis than the Strong Composition Thesis (SCT). If one is only considering the claims each thesis makes about the composition relation, then it looks as if SCT is the stronger of the three theses, since it is the only one that claims that composition is truly identity. RCT's strength seems to come from the boldness of claiming that the identity relation is different than we thought it was, not from it's position on composition *per se.*[24] Nonetheless, in an effort to be consistent with the terminology already in use in the literature, I will use the aforementioned names of the three varieties of CI, however inapt they may be.[25]

4. Rejecting WCT and RCT

In the chapters that proceed this present one, I will be endorsing SCT against many objections—some old and intuitive, some new and more technical. I also hope

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[24] Thanks to Keith Simmons for input here.

[25] I also think that it is inaccurate to call RCT a variety of composition as *identity*. See below (section 4.2) for elaboration.

to show that SCT is not only defensible, but plausible as well. Yet let me first take a moment to explain why I think both the Weak Composition Thesis (WCT) and the Strong*er* Composition Thesis (RCT) should be rejected.

4. 1   Rejecting WCT

First, consider WCT. Two reasons Lewis offers for thinking that the 'are' of composition is only *analogously* the 'is' of identity are (a) that he knows of 'no way to generalize the definition of ordinary one-one identity in terms of plural quantification,' and (b) that 'we do not really have a generalized principle of Indiscernibility of Identicals' [Lewis 1991: 87].

The idea behind (a), I take it, is that anyone who endorses SCT must give an adequate account of the classic identity relation. Such a relation is a singular relation that holds between one thing and itself; everything is identical to itself, and no two distinct things are identical to each other. Presumably, the SCT theorist will want to embrace a plural language, which will allow for her to quantify over objects plurally, and will allow her to utter identity claims that involve a combination of plural and singular terms such as "The parts (plural) are identical to the whole (singular)," etc. [26] Yet if she does this, then there seems to worry about whether one can provide a correct analysis of the singular, classic, one-one (singular) identity relation. Moreover, even if one could provide an adequate analysis of one-one identity, then worry (b) crops up: it is not clear how an SCT theorist could accommodate the

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[26] We will see in Chapter 3 the mechanics of just such a language.

Indiscernibility of Identicals. The parts are *many*, after all, and the whole is *one*. The

Indiscernibility of Identicals tells us that for any x and any y, if x =y, then x and y

have all properties in common. But if the parts are *many* and the whole is *one*, then

this seems an outright violation of the Indiscernibility of Identicals. So how could a

generalized principle of the Indiscernibility of Idenitcals accommodate this fact, if

SCT is true?[27]

So, (a) and (b) seem to based on Lewis' (correct) assumption that anyone

who endorses the Strong Composition Thesis (SCT) must provide an adequate

account of identity using plural quantification, and they must also give an adequate

account of the Indiscernibility of Identicals, given that on SCT, many things are many

and one. Lewis doesn't think that such conditions can be met, and so he thinks that

the only viable alternative to SCT is the weaker WCT. So his reasons *for* WCT are

based on the presumed failure on SCT.

One of my aims in the present thesis is to show precisely how it is that a

commitment to SCT *could* satisfy (a) and (b).[28] If I can show this adequately, then I

will have undermined Lewis' reasons for rejecting SCT, and this alone will make

SCT a view worth consideration. And if part of Lewis' reasons for WCT is the failure

of SCT, and yet I can show how SCT doesn't fail, then I will have undercut the

reasons for WCT as well.

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[27] This particular point will be addressed extensively in Chapter 3.

[28] See Chapter 3.

Furthermore, recall that one of the main motivations for thinking that composition is identity in the first place (or that it is *like* identity in Lewis' case) is to make mereology ontologically innocent. But I do not see how Lewis's WCT can satisfy this desideratum. For as soon as Lewis gives up the idea that the relation between part and whole is *literally* a form of identity, he is also giving up the idea that the whole is nothing over and above the sum of its parts. If the parts are not literally identical to the whole, then in committing oneself to the parts, one has not committed oneself to the whole—a further commitment is needed if one wants both parts and fusions in one's ontology.

Perhaps Lewis has something like *supervenience* in mind—the idea that wholes supervene on their parts, much the way many have thought that immaterial minds supervene on physical brains, or evaluative facts supervene on the descriptive facts, or law-like facts might supervene on facts about particulars, etc. Once we have the parts, in other words, we (somehow) get the whole for free. Or something like that.

I must say that ontological free lunches have always been a mystery to me; if the relation between one thing and another is *not* identity, then *they* are distinct, and that means *two* things are in our ontology rather than one.[29] I just do not understand how some admittedly non-identical things can fail to count as separate (hence, *extra*) items in our ontology. But the debate about the coherence of supervenience and ontological free lunches will have to wait for another time. Moreover, even

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[29] I'll be pressing this point a bit more below.

leaving my conceptual limitations and unsupported opinions aside, I am not entirely

sure that supervenience was what Lewis had in mind when he suggests that

composition is *like* or is a *kind* of identity. I suspect that if supervenience was what

Lewis had in mind when he was proposing WCT, he would have just said so.

But then this invites worries about the conceptual obscurity of how something

can be like—but not exactly!—identity; it is not clear how something can be

analogous to identity. Usually, our understanding of analogousness or similarity is

based on certain relevant, shared properties. We say that two objects are similar

when they have the same—*viz.*, identical!—properties. If a relation is not identity, but

has some of the attributes of identity, then it will need to be specified which attributes

it has and which ones it doesn't.

To be fair, Lewis does attempt to specify the details of his view. He claims

that composition is analogous to identity in the following ways: (i) composition and

identity are both ontologically innocent; (ii) identity obeys the following kind of

principle: if x exists, then something identical to x exists, and composition seems to

as well: if x and y exist, then the fusion of x and y exists; (iii) identity is transitive, and

so is composition (sort of)[30]; (iv) identity and composition both share an 'ease of

descriptions'—in describing something, we have thereby described whatever is

identical to this something. Likewise, in describing the parts, we have thereby

described the whole; and finally, (v) there is a necessity of location between a thing

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[30] Lewis claims: "A *kind* of transitivity applies…If *x* is them, and they are *y*, then *x* is *y*." [1991:85, my emphasis.]

and whatever's identical to this thing.[31] Similarly, there is a necessity of location

between the parts and the whole made up of these parts. So this *does* seem to be

an extensive list delineating what features composition and identity have in common.

However, what is unclear is *how* composition could be the sort of relation that

has all of these features. In order to claim that composition is ontologically innocent,

for instance, we need to be able to point to some feature of composition that

explains *why* it is ontologically innocent. In the case of identity this is easy, since we

have the Indiscernibility of Identicals. A commitment to *a*, given a prior commitment

to *b*, and given that *a* = *b*, is not a *new* commitment. For a *new* commitment is a

commitment to something distinct from the commitments already in place. Yet the

Indiscernibility of Identicals tells us that for any *x* and any *y*, if *x* = *y*, then for any

attribute *x* has, *y* has. So this guarantees the *in*distinctness of *a* and *b*, showing that

a commitment to one is nothing over and above a commitment to 'the other', making

it clear how identity is *genuinely* an ontologically innocent relation. In the case of

composition, however, there is no such parallel explanation. Lewis claims that

mereological sums are metaphysically dependent on their parts (e.g., if x and y exist,

then the fusion of x and y exists), that the composition relation exhibits a 'kind of'

transitivity, and that they share an 'ease of descriptions.' But it is not clear how any

of these features could *explain* the purported ontological innocence he claims the

composition relation has. And if these features cannot explain it, then it is not clear

what other features Lewis attributes to the composition relation could explain it.

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[31] Lewis 1991: 85-7.

According to Lewis, composition does not obey the Indiscernibility of Identicals, so that cannot be what explains how it is that composition is ontologically innocent.

So even granting that composition has all of the features Lewis says it does (save ontological innocence), it is not clear how this relation could then be ontologically innocent as well. A commitment to the whole is a new commitment over and above a commitments to the parts if the whole and parts are distinct—i.e., if the whole and parts are *not* identical. It won't be of any help if composition is *analogous* to identity in certain ways; that composition is not identity is enough to generate ontological burdens. Moreover, the obscurity and near-incoherence of the idea that composition is only analogous to identity makes WCT an untenable thesis. So WCT should be rejected.

4.2   Rejecting RCT

Next, let's consider RCT. As explained above, Baxter thinks that puzzles about composition are *evidence* that our intuitions about identity are what are in need of revision, not our views about the relation between parts and wholes. In effect, he uses puzzles of composition as a modus tollens against our ordinary intuitions about identity. Unlike Baxter, however, I think that there are certain basic metaphysical principles we should never give up, especially if these principles are given up in favor of far sketchier ones. One of these basic assumptions is consistency; another is the Indiscernibility of Identicals. I admit that this may be nothing more than a Moorean move on my part: I am more certain of classical logic

and the Indiscernibility of Identicals than I am of any of the other theses or puzzles that may call these principles into question.

So let me put my cards on the table as far as composition is concerned: I am more certain of the Indiscernibility of Identicals, than I am that Composition is Identity. If it turns out that CI cannot be maintained in light of the Indiscernibility of Identicals, then I think this gives us good reason to give up CI. So I certainly do not think that Baxter's move is the right one to make—we should be giving up CI if it means that we cannot maintain that the identity relation obeys the Indiscernibility of Identicals, not the other way around.

Moreover, in a certain sense, RCT doesn't even *qualify* as a view of Composition is *Identity*. Consider an analogous case. Suppose I endorse an identity theory of mind in the following way. "I am a monist about the mind. I believe that the mind is identical to the body. However, identity isn't what everyone thinks it is—the Indiscernibility of Identicals is false, so something can differ from itself. This is how the mind is identical to the body: the mind is immaterial, aspatial, private, etc., whereas the body—which is identical to the mind!—is material, spatial, public, etc. The mind is identical to the body, but identical things can differ from themselves, so the mind differs from the body."[32]

Such a view of the mind, while *called* an identity theory isn't really an identity theory of the mind. Once we have given up one of the essential features of the identity relation—the Indiscernibility of Identicals—we have ceased to be dealing with the identity relation any more. Of course, such an 'identity' theory isn't quite a

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[32] No one I know holds this view, but it certainly seems available in logical space.

dualist theory either. For most dualists—substance and property dualists alike—at least agree with the material monist about what the identity relation *is*; they have to in order to deny the material monist position, and maintain the distinctness of the mental and the physical. In contrast, the above 'identity' theory of the mind seems to have switched topics all together. It characterizes the identity relation in such a way as to no longer plausibly count as the identity relation any more. It is not an identity theory; it's a schmidentity theory. But who cares about schmidentity? We want to know whether the mind and body are *identical*, not whether the main and body are *schmidentical*!

Touting RCT as a theory about composition as *identity* is a misleading description of the view. For once we have redefined the identity relation so that it no longer obeys the Indiscernibility of Identicals, we are no longer concerned with the original topic. RCT is not a variety of Composition as Identity; it's a variety of composition as schmidentity. But who cares about schmidentity? We want to know whether the parts that compose a whole are *identical*, not whether the parts that compose a whole are *scmidentical*!

Finally, if the Indiscernibility of Identity is denied, and rather the *Dis*cernibility of Identicals is accepted, then it seems that there will be no principled difference between one thing that differs from itself and two things that differ from each other. Since we can't rely on differences of properties, in other words, as our criterion of identity, then there seems to be no fact of the matter as to whether we are dealing with one thing (that is discernible from itself) or two things (that are discernible from each other). One could merely stipulate that there are two things rather than one in

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any given case, but this would be to embrace the number of things in our ontology as a mere brute fact. That is, there would be no difference-making feature that would explain why we have one object distinct from itself rather then two objects distinct from each other. And embracing brute facts about the number of entities in our ontology will count against the overall explanatory power of our ontological theory.

So RCT is flawed for three reasons: (i) it forfeits our intuitive notions of identity for less intuitive ones about composition[33], (ii) it isn't even a proper theory of composition as *identity*, and (iii) it collapses our criterion of identity for distinguishing one object and two (or more) objects. WCT, on the other hand, is unviable because (a) it undermines the very motivation for accepting Composition as Identity in the first place—i.e., showing that mereology is ontologically innocent, and (b) it utilizes an obscure concept—e.g., the idea that composition is a relation that is somehow *analogous* to identity, but is not identity.

Thus, having introduced WCT and RCT, I am now throwing them off the table, as neither seems to be an adequate theory of composition as identity. I will devote the remainder of this thesis defending SCT as best I am able. Also, from here on out, whenever I talk about Composition as Identity (CI), I intend to only be talking about SCT.

5. **A Few Quick Words about Methodology**

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[33] At least *prima facie*, anyway. Since I am going to be endorsing the thesis that Composition is Identity, there is no distinction between the identity relation and the composition relation on my view.

I have already discussed some of the assumptions that I will be making in the following thesis: I will be assuming that ordinary objects exists (EA), that these ordinary objects have parts (PA), and that there is no non-arbitrary distinction between parts that make up an object and parts that don't (Arbitrariness Thesis), and so no demarcation is needed. I take it that EA and PA are relatively uncontroversial (with a few noteworthy exceptions[34]); and I hope to massage your intuitions and get you to accept the Arbitrariness Thesis along the way (if I haven't done so already). But there are a few other assumptions I will be making that might be worth flagging at this point.

First, I will be assuming a Quinean view of ontological commitment. I will be assuming that we are ontologically committed to those things that we existentially quantify over in our overall best theory of the world. I will be assuming that questions about existence and statements about what there is are unambiguous and univocal. I will be assuming that our ontological commitments can be "read off" of our ontological discourse; I will not be invoking hidden fictional operators, for example, or any sort of semantic tricks to show how our discourse pulls apart from what we're in fact ontologically committed to.

Second, I will be assuming that we are beholden to certain, traditional theoretical virtues. For example, I assume that we want our best overall theory of the world to be ontologically parsimonious. In general, we prefer a theory with fewer

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[34] Again, see Van Inwagen and Unger, etc.

entities rather than more, and we prefer fewer kinds of entities rather than more.[35] I

also assume that we want our best overall theory to yield the maximum amount of

explanatory power—we don't just want a simple theory, in other words, we want the

simplest theory that can explain the most. We don't want any phenomena

unaccounted for, in other words. Finally, we don't want our final ontological theory to

be one that posits any machinery merely to dodge objections; we don't want any part

of our theory to be ad hoc.

Third, I assume that the above theoretical virtues may need to be pitted

against one another; our best, overall theory of the world should strike the best

balance between these virtues as is possible.

Finally, my aim is to show that mereology is ontologically innocent. I would

like to provide an account of composition that obeys (at least) Transitivity,

Uniqueness, and (perhaps most importantly) Universality:

Transitivity: If x is part of y, and z is part x, then z is part of y.

Uniqueness: If something, x, is a fusion of some things, y_1, …, y_n, and
something, z, is also a fusion of the y_is, then $x = z$.

Universality: If there are some things, x_1, …, x_n, then there is something, x,
that is a fusion of the x_is.

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[35] See, for example, my discussion of the difference between quantitative and qualitative commitment
in Chapter 3, section 5.2. Also, see Lewis [1990].

As such, any argument against any of these principles will be seen as an attack

against the view of CI that I am defeding in this thesis.[36]

I understand that each of these assumptions might be questioned or

jettisoned. Unfortunately, I can only do so much in the space available here. My goal

is to begin with these general ground rules and see what we might accomplish.

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[36] See in particular Chapter 4, section 2.