

A Metaphysics of Ordinary Things and Why We Need It

Metaphysics has enjoyed a vigorous revival in the last few decades. Even so, there has been little ontological interest in the things that we interact with everyday—trees, tables, other people.¹ It is not that metaphysicians ignore ordinary things altogether. Indeed, they are happy to say that sentences like ‘The daffodils are out early this year’ or ‘My computer crashed again’ are true. But they take the truth of such sentences not to require that a full description of reality mention daffodils or computers. Many metaphysicians now interpret the apparent variety of *things* in the world as variety only of *concepts* applied to things that are basically of the same sort—for example, sums of particles or of temporal parts of particles.

I want to challenge this approach by formulating and defending a contrasting line of thought. On the contrasting line of thought, the differences among ordinary things are ontological: a screwdriver is a thing of a fundamentally different kind from a walnut, and both belong in any complete inventory of what exists. They are not redundant. That is, an ontology that mentioned particles but not screwdrivers would be incomplete. My aim here is to vindicate such claims.

Motivation for Nonreduction

To fix on a particular example, recall Savonarola’s ‘bonfire of the vanities.’ In 1497, young people, acting at the behest of the radical reformer Savonarola, went around to houses in Florence and collected wigs, mirrors, cosmetics, perfumes, carnival masks, trinkets, gambling equipment, musical instruments, and other such ‘vanities.’ The young people and their allies made a tall pyramid and set it afire.²

Suppose that, instead of burning all the things that had been collected, the young fanatics had smashed all the vanities to tiny bits. During the smashing, suppose, molecules were broken up and rearranged, but basic physical particles persisted throughout. The particles that made up the vanities existed both before and after the rampage, but by 6:00 the 'vanities' had disappeared. When these 'vanities' were smashed to tiny bits, did anything literally go out of existence?

Let us suppose that one of the musical instruments smashed was a lute, whose only remains were slivers.³ Did anything really go out of existence when the lute was smashed, or did people just stop applying the word 'lute' to what, ontologically speaking, existed both before and after the smashing? Here are three possibilities:

(1) Eliminativism: Strictly speaking, no lute ever existed. All that existed were simples arranged lute-wise. There was nothing that the simples made up or composed. When the lute was destroyed (as we say), the only change was in the arrangement of the particles. But nothing literally went out of existence.⁴

(2) Reductionism: There are lutes, but lutes are really just the matter that occupies certain spatial or spacetime points. Although we can quantify over lutes, lutes are redundant objects in that an ontology that includes the items to which lutes are reducible need not additionally make reference to lutes. Lutes are identical to sums of particles (or of temporal parts of particles). According to reductionism, any matter-filled spatial or spacetime points have sums. We give names for some of the sums that are arranged in certain ways (e.g., 'lutes'). Concepts

like *lute* reflect our interests, and reality is independent of our interests.⁵

(3) Nonreductionism: Lutes really exist in their own right; they are irreducible to anything more basic. Particles made up the lute that was smashed, but the lute was not just identical to 4D-particles or to 3D-particles arranged lute-wise—or to mereological sums of particles. This is my view.

Ontologically, eliminativism and reductionism line up against nonreductionism. On neither eliminativist nor reductionist views did anything literally go out of existence during the smashing; there was only a change in the arrangement of particles. It is easy to see that on eliminativist views, nothing literally went out of existence during the smashing—since no lutes or other ‘vanities’ ever existed in the first place. The reductionist case may not be as easy to see.

Consider 3D reductionism. A (standard) three-dimensionalist cannot consistently hold that there are lutes and that each lute is identical to a collection of three-dimensional particles (or a sum of particles). A lute can survive replacement of strings, and hence it can survive a change of the particles making it up. But the sum of 3D particles to which the lute is (putatively) identical cannot survive losing particles. If a reductionist considers three-dimensional simples and sums of three-dimensional simples to be the basic entities, then nothing that gains or loses simple parts over time can be identified with any basic entities. So, a three-dimensionalist of this sort cannot be a reductionist about ordinary objects.⁶

A 3D reductionist may object that a lute is not to be identified with a sum of particles, but with particles-arranged-in-a-certain-way; and, she may claim, particles-arranged-lutewise and the same

particles-arranged-sliver-wise are different objects. But according to standard 3D reductionism, what exists in both the case of the lute (i.e., particles-arranged-lutewise) and the case of the slivers (i.e., particles-arranged-sliver-wise) are just the particles. Arrangements are not items in the ontology; they are not objects at all.⁷

For a 3D reductionist, the difference between the lutes and the slivers is like the difference between three marbles arranged as vertices of a triangle and the same marbles in my pocket: there is no ontological difference. Ontologically, there are just the marbles in both cases. The difference rather is that our concept 'vertices' applies to the marbles in one arrangement but not to the marbles in the other arrangement (in my pocket). Similarly, the difference between the particles-arranged-lutewise and the particles-arranged-sliver-wise is that our concept 'lute' applies to the former but not to the latter. For a 3D reductionist, there can be no ontological difference.⁸

Unsurprisingly, most reductionists are four-dimensionalists. According to standard four-dimensionalism, concrete objects are spacetime worms that have temporal parts as well as spatial parts. There are countless, nameless spacetime worms coming into existence and going out of existence everywhere all the time. With the super-abundance of worms beginning and ending at every spacetime point, it is not difficult to suppose that some of them are lutes. The worms that we name (e.g., 'lute') are the ones that we have interest in. The temporal parts that made up the lute at noon were also parts of unbelievably many different worms, many of which continued after 6:00; some of those worms included *both* the parts that we call 'lute' and parts that we call 'slivers'. For a four-dimensionalist to say that a lute went out of existence before 6:00 is for her to pick out a worm that had no more temporal parts by 6:00. But there is nothing *ontologically* distinctive about such a spacetime

worm: that spacetime worm is on an ontological par with a spacetime worm that has some temporal parts that we call 'lute' and other temporal parts that we call 'slivers'. There is, of course, a change in the distribution of qualities when the lute was smashed, but on four-dimensionalism, a change in the distribution of qualities is not an ontological change. The 'lute' worm is just a part of a 'lute-and-slivers' worm.

On four-dimensionalism, there is no more ontological difference between a lute and a quantity of slivers than the difference between the first half of the lute's life and the second half of the lute's life. Of course, the lute and the slivers are different (but connected) spacetime segments; but so are the first and second halves of the lute's life. When a four-dimensionalist says that lutes went out of existence, she is using 'goes out of existence' in a way that applies equally to the first half of the lutes' life that goes out of existence before the second half begins. From the point of view of four-dimensionalism, the smashing of the lute was no more loss to reality than the end of the first half of the lute's life.

So, on the eliminativist and 3D reductionist views, there is no *ontological* difference at all between the lute and the slivers, and on four-dimensionalism there is no *greater* ontological difference between the lute and the slivers than there is between the first and second halves of a lute's life. (From now on, I'll assume three-dimensionalism.)⁹

By contrast, on the nonreductionist view, the smashing of the lute was the loss of an irreducibly real object—that is, a nonredundant thing of a kind that must be mentioned in a complete ontology. At the time of the smashing, the thing that was a lute literally went out of existence; it did not just lose the property of being

a lute and acquire the property of being a quantity of slivers. The lute was not just a sum of particles that changed shape; it was an object that once existed and then ceased to exist altogether. The contents of the world changed on that day in 1497; on the nonreductionist view, complete temporally-indexed inventories of the world would include different objects in the morning and in the evening. So, for the nonreductionist—as opposed to both the reductionist and the eliminativist—the smashing of the lute was a genuine loss to reality—an *ontological* loss.

Now turn to the semantic comparison-and-contrast: Semantically speaking, reductionism and nonreductionism line up against eliminativism. The reductionist and nonreductionist both take ‘lute’ to be a referring word, but (as I mentioned) the eliminativist does not.¹⁰ However, eliminativists, along with reductionists and nonreductionists, can take the *sentence*, ‘There are lutes’, to be true.¹¹ Such sentences are to be rephrased with plural quantification and the predicate ‘are arranged lute-wise.’ The eliminativist takes the sentence ‘There are lutes’ to be true in virtue of having a paraphrase that does not mention lutes: E.g., ‘There are some simples arranged lutewise.’¹² The eliminativist cannot suppose that the sentence ‘there are lutes’ is both true and literally an expression of a proposition concerning lutes. So, the eliminativist requires odd paraphrases of much of everyday talk; speakers do not mean what they think that they mean.

By contrast to the eliminativist, both the reductionist and nonreductionist take the sentence ‘There are lutes’ to be true as expressed; neither nonreductionist nor reductionist needs a paraphrase that does not mention lutes. The difference between the reductionist and the nonreductionist is, as we have seen, ontological: They differ on what, in fact, a lute is. Along with the eliminativist, the

reductionist in effect says, ‘The world is nothing like the way you think it is,’ and many add, ‘but that does not matter because you may still say everything that you want to say.’ Only the nonreductionist takes our everyday discourse to be true on a face-value reading, according to which ‘the lutes were smashed’ implies that something literally went out of existence altogether.

These semantic and ontological differences among the three views, I believe, give us *prima facie* reason to be nonreductionists. Only on a nonreductionist view was the smashing of the lutes a genuine loss to reality: The lutes and the other ‘vanities’ went out of existence altogether; they didn’t just undergo a rearrangement of parts and a name change. Let us now turn to the task of formulating a nonreductionist view that allows ordinary objects—not just particles and their sums—to be irreducible parts of reality.

The Idea of Constitution

If, as I claimed, lutes are not just identical to sums of particles, what *is* the relation between the lutes and the aggregates of particles that made them up? My answer is: constitution.¹³ Constitution is a single comprehensive metaphysical relation that accounts for the existence of the objects that we experience in everyday life.

Constitution is a very general irreflexive, asymmetric and transitive relation that is ubiquitous. It is a relation that holds between granite slabs and war memorials, between sodium and chlorine atoms and salt molecules, between pieces of paper and dollar bills—things of basically different kinds that are spatially coincident.¹⁴ Things are of different primary kinds, as I shall explain. The fundamental idea of constitution, on my view, is this: when a thing of one primary kind is in certain circumstances, a thing of another

primary kind—a new thing, with new persistence conditions and new causal powers—comes to exist.¹⁵ When a red octagonal piece of metal with certain markings (S-T-O-P) is in circumstances where certain conventions and laws pertain, a new thing—a traffic sign—comes into existence. A traffic sign is a different kind of thing, with different causal powers, from the odd piece of metal that you have in your garage.

Behind the idea of constitution is an Aristotelian assumption. For any *x*, we can ask: What most fundamentally is *x*? The answer will be what I call *x*'s 'primary kind.' Everything that exists is of some primary kind—e.g., a horse or whatever kind of thing it most fundamentally is. I have a fairly broad notion of primary kinds: Some primary kinds are relational (e.g., *gene*); some are intentional as well as relational (e.g., *passport*); and some are neither (e.g., *horse* or *cabbage*).

An object's primary kind goes hand in hand with its persistence conditions. Since a thing has the same persistence conditions in every possible world and time at which it exists, it has its persistence conditions essentially. And since an object's primary-kind property determines what it most fundamentally is, an object has its primary-kind property essentially: An object could not exist without having its primary-kind property.¹⁶

However, something may have a primary-kind property without having that property as *its* primary-kind property. There are two ways to fall under a primary-kind sortal: to be essentially of that kind or to be contingently related by constitution to something that is essentially of that kind.¹⁷ Since *pencil* is a primary kind, this pencil is a pencil essentially, but the sum of particles that make it up is only a pencil contingently, by virtue of constituting the pencil. The sum of

particles is not a pencil unless there is a pencil that it constitutes. After the pencil is used up and no longer exists, the sum of particles that once constituted the pencil still exists, but is no longer a pencil. So, something (e.g., a sum of particles) may have a primary-kind property contingently when suitably related to something (e.g., a pencil) that has it essentially.¹⁸ As I'll explain below, the pencil is a pencil nonderivatively, but the sum of particles is a pencil derivatively—in virtue of constituting a pencil.

Constitution is ubiquitous: The constitution relation holds equally between objects that depend on our practices and conventions, and objects that do not. People are part of nature and contribute to reality, just as molecules do.¹⁹ I call objects that could not exist in a world without beings with beliefs, desires and intentions 'intention-dependent' objects or 'ID' objects. Artifacts and artworks are paradigmatically ID objects, and they too bear constitution relations, just as natural objects like stars and trees do. The circumstances required for the existence of ID objects (like voting machines or statues) have presuppositions of intentionality. The circumstances required for the existence of nonID objects (like stars or jellyfish) do not have presuppositions of intentionality. But all objects that we know of are constituted. So, it's constitution 'all the way down.' I once saw a sculpture made of hundreds of cardboard cylinders from toilet paper roles. That was an artwork constituted by a sum of artifacts that, in turn, was constituted by a sums of molecules and so on—ultimately down to constitution by sums of microphysical particles.

The importance of constitution lies in the fact that it brings into being new objects of new primary kinds. For example, a world with the same kinds of atoms that make up organisms (e.g., hydrogen, carbon, nitrogen, oxygen and sulfur)²⁰ but with different environments

may lack organisms, and a world without organisms is ontologically different from a world with organisms. So, constitution makes an ontological difference.²¹ Let me enumerate some features of the constitution relation.

--First, constitution is not identity. Identity is strict identity: ' $x = y \rightarrow (x=y)$.' Constitution obviates the need for so-called 'temporal identity' and other kinds of faux identity. Constitution is time-bound, and contingent; identity is not.

If x constitutes y at t , the facts that x and y are of different primary kinds, have different persistence conditions and different causal powers guarantee nonidentity. E.g., an aggregate of a sodium atom and a chlorine atom exists no matter what the configuration, but a salt molecule exists only when a sodium atom and a chlorine atom are in circumstances of chemical bonding. The salt molecule thus has different persistence conditions from the sum (or aggregate) of sodium and chlorine atoms that constitutes it. So, constitution is not identity.

--Second, and crucially, although constitution is not identity, it *is* a relation of unity. Constitution is not merely spatial co-location. The constitution relation allows the constituted object and the constituting object to share instantiations of properties by what I call 'having properties derivatively'. The intuitive idea is simple: If x constitutes y at t , then some of x 's properties at t have their source (so to speak) in y , and some of y 's properties at t have their source in x .

Although I have put this point less metaphorically elsewhere by defining ' x has property H at t derivatively,' here I'll just illustrate the idea.²² My driver's license is constituted by a piece of plastic: My driver's license has the property of being rectangular only because it

is constituted by something that could have been rectangular even if it had constituted nothing. And the piece of plastic has the property of impressing the policeman only because it constitutes something that would have impressed the policeman (a valid drivers' license) no matter what constituted it. The driver's license has the property of being rectangular derivatively, and of impressing the policeman nonderivatively; the piece of plastic that constitutes my driver's license has the property of being rectangular nonderivatively, and of impressing the policeman derivatively.

Not all properties may be had derivatively. Several classes of properties are excluded from being had derivatively: They are not shared. The excluded classes contain: (1) Properties expressed in English by locutions using 'essentially', 'necessarily', 'possibly', 'primary kind' and the like (e.g., being a pencil essentially). (2) Properties of being constituted by x, or being identical to x (e.g., constituting a pencil).²³ (3) Properties rooted outside the times at which they are had (e.g., having been quarried in 1500). (4) Certain combinations of properties (e.g., being a granite monument). Although these properties are excluded from being had derivatively, enough properties (including primary-kind properties) can be had derivatively to see how constitution is a relation of unity.

The idea of *having properties derivatively* solves the problem of 'too many Fs.' If I am a person nonderivatively, and my body is a person derivatively (in virtue of constituting me), then there is just one person where I am—I nonderivatively, my body derivatively. My body and I are the same person. This idea can be sharpened by extending John Perry's definition of 'the same F.' If F is a property that can be had derivatively (like weighing 200 lbs, or being a person), then x and y are the same F iff $Fx \ \& \ (\text{either } x=y \text{ or } x \text{ and } y \text{ are constitutionally-related})$. If x and y are the same F, then there are

not thereby two Fs. If my body and I are the same person, or if Michaelangelo's *David* and a certain piece of marble are the same statue, there are not thereby two persons or two statues.²⁴

In short, the idea of having properties derivatively shows how things in constitution relations share so many properties even though they are not identical, and hence it gives substance to the idea of unity-without-identity.

--Third, constitution is not a mereological relation: It is not a relation of part to whole.²⁵ Mereological sums (different sums at different times) ultimately *constitute* ordinary objects, but constitution itself is not a relation of parthood. If x constitutes y at t, x is not part (proper or improper) of y at t.

Whither Mereology?

In this section, I have three goals: First, to show the inadequacy of mereology as a metaphysical account of ordinary things; second, to present an account of parts of ordinary objects that is congenial to the Constitution View; third, to show that, although constitution is not a mereological relation, certain constituters are classical mereological sums.

The Inadequacy of Mereology to account for Ordinary Things

Typically, when discussing material objects, philosophers give mereology pride of place at the head of the table. Many philosophers construe objects to be either wholes that can be understood as sums of their parts, or 'simples'. This approach immediately causes trouble for understanding ordinary objects. As I mentioned, according to classical mereology, sums have their parts essentially, but ordinary objects survive many changes of parts.²⁶ Even worse, according to

classical mereology, any things have a sum. So, there is a sum that has as parts your left ear, the Eiffel Tower, and President Lula of Brazil, and there is no metaphysical distinction between an arbitrary sum (like the sum of your left ear, the Eiffel Tower, and President Lula) and a sum that is allegedly identical to a recognizable object (like my computer). So, (classical) mereological theories cannot countenance objects that change parts, and cannot distinguish between genuine objects and arbitrary sums.

Philosophers have responded to this state of affairs in several ways: One strategy—Roderick Chisholm’s—is to stick with classical mereology, and to deny that ordinary things that gain and lose parts belong in ontology.²⁷ Another strategy—Peter van Inwagen’s—is to formulate a temporally-qualified mereology that allows objects to have different parts at different times.²⁸ A third strategy—David Lewis’s—is to exploit four-dimensionalism.²⁹ Chisholm’s view downgrades ordinary objects to mere “*entia successiva*” that are not genuine objects. Van Inwagen’s view entails that many sums that have no parts in common are, nevertheless, identical sums.³⁰ To construe sums in such a way that identity of parts is irrelevant to identity of sums seems to me not to be in the spirit of mereology. Lewis’s four-dimensional view, as I argued in the first section, will not provide a metaphysical theory of ordinary things.³¹ None of these mereological theories seems a promising basis for a metaphysical (as opposed to linguistic or conceptual) account of ordinary objects.

I am not claiming that there is anything wrong with mereological theories as abstract formal systems; rather, I am claiming that they do not apply to ordinary objects with ordinary parts. No ordinary object is identical to any mereological sum. So, for a metaphysical account of ordinary objects, we should stick with the Constitution View.

A Constitution View of Parts

The Constitution View has a consequence that can be stated in terms of classical mereology: Every constituted object is a *mereological atom*. That is, no constituted object has any of what mereologists call ‘parts’.

“But wait!” I can hear you say. “Tables are constituted objects and tables obviously have parts; so your view false.” I reply: I said that no constituted object has any parts, as ‘parts’ is used in mereology. Of course, tables have parts, as ‘parts’ is used in English. I shall give an analysis of ‘x is part of y at t’ that applies to parts of ordinary objects. If this analysis is correct, then it shows that when mereologists utter what sounds like the English word ‘part,’ they are not referring to parts of ordinary things. The analysis makes use both of constitution and of mereology. I shall use ‘mereological part’ as a primitive term to refer to the reflexive, nonsymmetrical, and transitive relation that mereologists refer to, and I shall argue that mereological parts are not parts of ordinary objects. Here is the standard mereological definition of ‘sum:’

(S) y is a sum of the x s =_{df} every x is a mereological part of y ,
and every mereological part of y overlaps some x ,³²

where ‘overlap’ is understood as sharing a mereological part. My claim is that the relation between sums and their mereological parts, as defined by (S), is distinct from the relation between ordinary objects and their ordinary parts.

On the Constitution View, ordinary objects are not (identical to) sums; parts of ordinary objects are not mereological parts. Every sum is a mereological part of itself; no ordinary object is part of itself. Ordinary things have no improper parts. Although mereological parts

are not ordinary parts, we can use classical mereology to define the temporally-indexed parthood relation for ordinary things. Let 'x < y' stand for 'x is a mereological part of y' and let 'Czyt' stand for 'z constitutes y at t.' Then:

(P) x is part of y at t =_{df} $\exists z[x \neq z \ \& \ x < z \ \& \ Czyt]$

(P) defines 'x is part of y at t' in such a way that the parts of an ordinary object at t are products of what mereologists call 'proper parthood' and of constitution: x is part of y at t if and only if x is a proper mereological part of a sum that constitutes y at t. Given (P), if x constitutes y at t, then x is not part of y at t. And if y is a sum of the x's, then the x's are not parts of y: that is, if y is a sum of the x's, then the x's are mereological parts of y (by (S)), but not ordinary parts of y (by (P)). (P) defines parts of ordinary objects, which are constituted objects. According to (P), mereological parts—in terms of which sums are defined—are not genuine parts.

My aim is not to do ordinary-language philosophy or early 20th-century conceptual analysis. Rather, by defining temporally-indexed parthood in terms of (P), I am saying what genuine parts of ordinary objects really are. (P) leads to a metaphysical account of parthood that applies to ordinary objects like tables, flowers and people.³³ The relation between the Eiffel Tower and the sum of the Eiffel Tower, your left ear and President Lula is a different relation from the relation of your car's brake pads to your car, or of your right hand to you. It is only the latter relation that is parthood—ordinary parthood—and it is that relation that, I believe, (P) captures.³⁴

(P) is perfectly general. An atom A is part of my table at noon if A is a mereological part of a sum that constitutes my table at noon. Suppose that at 12;30, someone scratches my table, removing some of

the atoms that include atom A; then A is not part of my table at 1:00. But, of course, A is still a mereological part of the sum that did constitute my table at noon. The sum that did constitute my table at noon still exists at 1:00, but it does not constitute my table at 1:00. So, A was part of my table at noon, but not at 1:00. This can be made more precise:

Atom A is part of my table at noon but not at 1:00 =_{df} (i) There is a sum S such that S constitutes my table at noon and A is a proper mereological part of S; and (ii) there is no sum S' such that S' constitutes my table at 1:00 and A is a proper mereological part of S'.

Let me give two more examples of ordinary parthood: The first example illustrates the point that if a sum has constituted parts, then parts of the constituted parts may change without affecting the identity of the sum. Here's the example: My table is constituted at t by the sum of the top and the four legs (suppose that the four legs were machined to screw directly into the top); so, the table has the top as a part at t. If the top is scratched at t, it is still the same top at t' (table tops survive scratching), and the same sum of the top and the four legs still constitutes the table at t'. However, the scratched top that had been constituted by one sum of atoms at t is constituted by a different sum of atoms at t'. So, not only can ordinary objects survive change of their parts, but also ordinary parts of ordinary objects (unlike mereological parts of sums) can survive change of their parts.

The second example of ordinary parthood concerns the constitution of one object by another constituted object, rather than by a sum: Suppose that Person A is constituted by Body B at t, and Body B is constituted by a sum of organs at t that includes tonsils. Body B and Person A both have tonsils as parts at t. The constituting

sum of organs has tonsils as mereological parts. After Person A has her tonsils taken out before t' , she is still constituted by the same Body B at t' (a human body can survive loss of tonsils); but Person A, as well as Body B, is constituted by a different sum of organs at t' (a sum that does not have tonsils as parts).

Many philosophers insist that if x constitutes y at t , then (at some level) x and y have all and only the same (mereological) parts.³⁵ They want to define constitution as a mereological notion. Of course, I do not. However, (P) does imply that all and only the atoms contained in my table are also contained in the sum of the top and four legs. Although (P) is not transitive, there is a route from the table to the atoms contained in it as parts.³⁶ Each of the legs and the top is constituted by a sum of atoms. The table is constituted by the sum of all those sums of atoms that constitute the legs and the top. In general, an object is constituted by the sum of all the sums that constitute the parts of the object. So, the table and the sum of the top and four legs share all their atoms at t . But it is a *consequence* of constitution (not a condition of constitution, nor part of the definition of 'constitution') that if x constitutes y at t , then x and y have all their atoms in common at t .

Even though my table and the sum of its top and four legs share all their atoms at t , strictly speaking, we can't say that x and y have all their parts in common without equivocation: the relation that an atom bears to a sum of which it is a mereological part is a different relation from the relation that the same atom bears to a constituted object. This is a general point about the difference between mereological parts and ordinary parts: The relation that your brain bears to the sum of your brain and Mt. Everest is surely different from the relation that your brain bears to your body. Sums (and only sums) have what I

have been calling ‘mereological parts’, and, as we have seen, what I have been calling ‘mereological parts’ are not ordinary parts.

Since an ordinary object has ordinary parts defined by (P), but no mereological parts, an ordinary object may be understood as a mereological atom. Here are some virtues of this account of parthood in terms of (P):

- (1) (P) is faithful to the ways that we ordinarily think of parts. Here are some examples: (i) The foot of a leg of a table may be replaced without affecting the identity of the table. (ii) The table is not part of itself. (iii) The top, along with each of the four legs, is a part of the table.³⁷
- (2) Since (P) has the consequence that constituted things are mereological atoms, it is natural to include constituted things (ordinary things) in basic ontology as I urge.
- (3) Relatedly, given (P), there’s no question about reducing an ordinary thing to its parts. Constituted things are irreducible.

The Role of Sums as Constituters

Even though constitution is not itself a mereological relation, the Constitution View can incorporate mereology by taking ordinary objects to be ultimately constituted by sums of physical particles.³⁸ Sums are ‘ontologically innocent’—requiring no further commitment than to their parts. As David Lewis put it, ‘In general, if you are already committed to some things, you incur no further commitment when you affirm the existence of their sum.’³⁹ However, if I am right, your commitment to, say, persons or credit cards or even to salt molecules, is a further commitment than simply to their parts or to

the sum(s) of their parts. A world in which all the chlorine atoms were spatially distant from all the sodium atoms would be a world without salt molecules, but all the parts of salt molecules, and sums of those parts, would exist. So, by a version of Leibniz's Law,⁴⁰ salt molecules are not identical to sums of chlorine and sodium atoms. The relation is, instead, constitution: A salt molecule is constituted at t by the sum of a chlorine and a sodium atom. Sums are ontologically innocent, but what they constitute—people, credit cards, and salt molecules—are not.⁴¹

Although ordinary objects are not sums, sums are the ultimate constituters of ordinary objects: Some constituters are themselves constituted objects (as is a piece of cloth that constitutes a flag); but all constituted objects are ultimately constituted by sums of physical particles. At any time the flag exists, there is a sum of atoms that constitutes it at that time. But since constitution is not just summation, medium-sized objects are not identical to the sums that ultimately constitute them.⁴² So, although constitution is not itself a mereological relation, a constitutionalist need not abjure mereology altogether.

In short: The Constitution View has a place for mereological sums—not as ordinary objects, but as ultimate *constituters* of ordinary objects: Ordinary objects are ultimately constituted by mereological sums. However, on the Constitution View, mereology has a diminished role to play: ordinary things are not identical to mereological sums; ordinary things have ordinary parts (as defined by (P)) but no mereological parts. Mereological sums have mereological parts but no ordinary parts. The upshot is that constitution cannot be understood as mereological composition.

Why Do We Need a Metaphysics of Ordinary Things?

At the beginning, I motivated a metaphysics of ordinary things as the best way to account for what happened when Savonarola's followers destroyed 'the vanities.' An equally important motivation for a metaphysics of ordinary things is to account for the rationality of our practices and of our attitudes directed toward ordinary things. We need a metaphysics that makes sense of the familiar ways that we interact with ordinary things. For example, suppose that I buy a table and take it home; if I don't like the way that it looks in the dining room, I'll return it. But if I want my money back, I must return it—*it*, that very table. The table probably lost a few atoms along the way, but that is irrelevant to its being the same table. The rationality of our practices (like the practice of crediting one's account) and attitudes (like wanting to return that table) depend on the persistence of the table over time.

We could not make sense of property rights or of tort law if we could not re-identify objects across time, and the objects that we need to re-identify are manifest objects. The epistemological point is that we engage in practices which involve re-identifying of objects over time. The metaphysical point is that the objects that we re-identify—ordinary objects—really are the very same objects over time (unlike underlying sums of particles that may make them up over time). We need a metaphysics of ordinary things to explain the epistemological point and to secure the rationality of practices requiring re-identification. Holding that manifest objects are really just (successive) sums of particles puts our everyday attitudes and practices concerning them at risk of irrationality.⁴³

A promising way to remove this threat of irrationality is to come up with a theory to correlate manifest objects with their corresponding underlying objects that respects their coincidence, as well as their distinctness, and allows the underlying objects to

“piggyback” on the manifest objects for their (rough) identity conditions.⁴⁴ And this is just what my metaphysical theory of ordinary objects attempts to do.

It is noteworthy that taking ordinary objects to be irreducibly real does not contravene physics. Quite the contrary. The idea of constitution allows stable ordinary objects to be ultimately constituted by constantly changing sums of particles, without being reducible to the sums that constitute them.

Conclusion

Let me conclude by addressing a commonly heard argument against a metaphysics of ordinary things—an argument from parsimony. The premise is that recognizing ordinary things needlessly bloats ontology. We can do just as well, it is said, with an ontology that contains only particles and their sums (and perhaps sets). So, parsimony dictates that recognizable ordinary things not be in the ontology.

But parsimony is not the correct virtue to appeal to unless one *already* has a coherent and comprehensive view. The basic reason to pursue a metaphysics of ordinary things is that appeal to ordinary things is needed for a coherent and comprehensive metaphysics that secures the rationality of our practices and attitudes toward the things we encounter. Thus, we have good reason not to take manifest objects “really” to be just collections of particles.

In any case, parsimony is not the only intellectual virtue. A metaphysical theory should help us understand reality and our experience of it. It is difficult to see how understanding is served by the suggestion, for example, that it is never the case that, ontologically speaking, there is exactly one cat in the room. It is even

more mysterious to add that we shouldn't worry about this since we still may truly *say* that there is exactly one cat in the room.⁴⁵

Reality as we encounter it is strange enough; metaphysics should not make it even more strange. The ultimate test of a metaphysical theory, after coherence and clarity, is a pragmatic one: What are the theory's consequences? Does it illuminate basic reality in such a way that our interactions with the world make sense? That is the bar at which I rest my case.⁴⁶

Lynne Rudder Baker
University of Massachusetts Amherst

¹ There are some notable exceptions. See, for example, Crawford L. Elder, *Real Natures and Familiar Objects* (Cambridge, MA: MIT Press, 2004); Amie L. Thomasson, *Fiction and Metaphysics* (Cambridge: Cambridge University Press, 1998) and *Ordinary Objects* (Oxford: Oxford University Press, forthcoming); and Michael C. Rea, 'Sameness Without Identity: An Aristotelian Solution to the Problem of Material Constitution,' *Ratio* 11 (new series), 1998: 316-328. Some aspects of his *Naming and Necessity* (Cambridge, MA: Harvard University Press, 1972) suggest that Saul Kripke would also be sympathetic, but he is so cautious in his commitments that I hesitate to claim him as an ally.

² http://www.floria-publications.com/italy/italian_culture/the_bonfire_of_the_vanities.html. Accessed December 17, 2006.

³ Lutes were in use before 1497. Lutes are represented in *The Nativity* by Piero della Francesca in 1470.

⁴ Peter van Inwagen (*Material Beings* (Ithaca, NY: Cornell University Press, 1990)) is an eliminativist with respect to inanimate objects..

⁵ David Lewis (*Parts of Classes* (Oxford: Basil Blackwell, 1991) was a four-dimensionalist reductionist. Roderick Chisholm (*Person and Object* (LaSalle, IL: Open Court Publishing Company, 1976) was a three-dimensionalist who was a reductionist with respect to inanimate objects.

⁶ Phillip Bricker was helpful in discussing three- and four-dimensionalism.

⁷ So, a three dimensionalist who rejects nonreductionism should turn to eliminativism, and say that, ontologically speaking, there are no lutes, just particles-arranged-lutewise. By contrast, four-dimensionalists can say that there are lutes, and that a lute is identical to particles-arranged-lutewise. On four dimensionalism, particles-arranged-in-way1 and particles-arranged-in-way2 are distinct objects, because difference in arrangement implies difference in time. And on four dimensionalism, particles existing at different times (i.e., particles that are parts of the same spacetime worm) are different objects (different temporal parts).

⁸ Another example: Consider the pieces of a jigsaw puzzle in the box, and the same pieces assembled to be a picture. If there is an ontological difference, then the picture is not reducible to the pieces.

⁹ In Chapter Ten of *The Metaphysics of Everyday Life: An Essay in Practical Realism* (Cambridge: Cambridge University Press, in press), I have a detailed argument against Theodore Sider's four-dimensionalism.

¹⁰ There is no ontological difference between reductionists and eliminativists on a natural interpretation of the assumption that mereology is, as Lewis says, 'ontologically innocent.' It is reasonable to interpret the assertion that mereology is ontologically innocent to imply that the existence of parts is wholly sufficient for the existence of their sums. *Parts of Classes* (Oxford: Basil Blackwell, 1991): 81.

¹¹ Some eliminativists would not even take the sentence 'there are lutes' to be true. E.g., Trenton Merricks takes 'chairs exist' to be false, but introduces the term 'nearly as good as true' for false statements that Fs exist if there are things arranged F-wise. Trenton Merricks, *Objects and Persons* (Oxford: Clarendon Press, 2001): 170-1.

¹² cf. Peter van Inwagen, *Material Beings* (Ithaca, NY: Cornell University Press, 1990): 109.

¹³ A number of prominent philosophers in recent years have endorsed some form of constitution-without-identity. The following are just a sample: Frederick C. Doepke, 'Spatially Coinciding Objects,' *Ratio* XXIV, (1982): 45- 60; E.J. Lowe, "Instantiation, Identity and Constitution," *Philosophical Studies* 44 (1983): 45-59; Judith Jarvis Thomson, 'The Statue and the Clay,' *Noûs* 32 (1998): 149-173; Kathryn Koslicki, 'Constitution and Similarity,' *Philosophical Studies* 117 (2004): 327-364; Stephen Yablo, 'Identity, Essence and Indiscernibility,' *Philosophical Review* 104 (1987): 293-314; Michael C. Rea, 'Sameness Without Identity: An Aristotelian Solution to the Problem of Material Constitution,' *Ratio* (new series) XI (1998): 316-328; Mark Johnston, 'Constitution is Not Identity,' *Mind* 101 (1992): 89-105; David Oderberg, 'Coincidence Under a Sortal,' *Philosophical Review* 105 (1996): 145-171; Ernest Sosa, 'Subjects Among Other Things,' in *Material Constitution*, Michael C. Rea, ed. (Lanham, MD: Rowman and Littlefield, 1997: 63-89; Michael B. Burke, 'Preserving the Principle of One Object to a Place: A Novel Account of the Relations Among Objects, Sorts, Sortals and Persistence Conditions,' *Philosophy and Phenomenological Research* 54 (1994): 591-624; Peter Simons, *Parts: A Study in Ontology* (Oxford: Clarendon Press, 1987); David Wiggins, 'On Being in the Same Place at the Same Time,' *Philosophical Review* 77 (1968): 90-95. My construal of constitution differs from those of all the

above.

¹⁴ For a discussion of whether or not spatial coincidence, when joined with the causal efficacy of ordinary things, leads to intolerable causal overdetermination, see Chapter Five of *The Metaphysics of Everyday Life*.

¹⁵ For detailed discussion, see Chapter Eight of *The Metaphysics of Everyday Life*.

¹⁶ To borrow some paraphrases about essential properties from Chisholm, if *x* has the property of being a horse essentially, then '*x* is such that, if it were not a horse, it would not exist'; or 'God couldn't have created *x* without making it such that it is a horse'; or '*x* is such that in every possible world in which it exists it is a horse.' Roderick Chisholm, *Person and Object*, (LaSalle, IL: Open Court Publishing Company, 1976): 25-6.

¹⁷ See Ryan Wasserman's 'The Constitution Question,' *Noûs* 38 (2004): 693-710.

¹⁸ Many properties (unrelated to this discussion) may be had essentially by some things and nonessentially by other things. A planet has the property of having a closed orbit essentially; a comet that has a closed orbit has that property nonessentially. (This assumes that planets are planets essentially; otherwise it is only a *de dicto* necessity that planets have closed orbits.)

¹⁹ It is a profound error to take a distinction between what is mind-independent and what is mind-dependent as foundational for metaphysics. See *The Metaphysics of Everyday Life*, Chapter One.

²⁰ Atoms of these kinds make up amino acid molecules. See http://www.biology.arizona.edu/biochemistry/problem_sets/aa/aa.html (accessed March 1, 2007).

²¹ For greater detail, see *Persons and Bodies*. See also the Book Symposium on *Persons and Bodies in Philosophy and Phenomenological Research* 64 (2002): 592-635, and my 'On Making Things Up: Constitution and its Critics,' *Philosophical Topics: Identity and Individuation* 30 (2002): 31-51.

²² See *The Metaphysics of Everyday Life*, Chapter Six. Earlier versions appear in my *Persons and Bodies* (Cambridge: Cambridge University Press, 2000), and in 'On Making Things Up', *op.cit.*

²³ I later define parthood—ordinary parthood—in terms of constitution as well as of mereology. So, the property of having part *P* at *t* is excluded since it is defined in terms of constitution. The property of having *P* as a part at *t* may not be had derivatively.

²⁴ For an account of counting, based on Aristotle's notion of accidental sameness, congenial to constitution-without-identity, see Jeffrey E. Brower and Michael C. Rea, 'Material Constitution and the Trinity,' *Faith and Philosophy* 22 (2005): 57-76. Brower and Rea's construal of constitution is significantly different from mine. They take constitution to be a mereological notion; I do not. I take sameness of parts at a time to *follow from* constitution, not to be constitutive of the idea of constitution itself.

²⁵ Typically, philosophers who appeal to constitution (e.g., Michael Rea) take *constitution* to be a mereological concept, defined in terms of sameness of parts. By contrast, 'constitution' as I use it is not a mereological concept. Indeed, as we shall see, I use the idea of constitution to define *part at t* of ordinary things.

²⁶ For a classical statement of mereology, see Nelson Goodman and Henry Leonard, 'The Calculus of Individuals and Its Uses,' *Journal of Symbolic Logic* 5 (1940): 40-55.

²⁷ See Roderick Chisholm's *Person and Object* (La.Salle Ill., Open Court Publishing Company, 1976).

²⁸ See Peter van Inwagen's 'Can Mereological Sums Change their Parts?' (*Journal of Philosophy* 103 (2006): 614-630). The only sums that van Inwagen countenances are living organisms.

²⁹ See David Lewis's *Parts of Classes* (Oxford: Basil Blackwell, 1991).

³⁰ For example, on van Inwagen's account, sum *A* (the sum of your parts at *t*) and sum *B* (the sum of your parts at *t'*) are identical even if none of the atoms in *A* is also in *B*.

³¹ The basic ontology of four-dimensionalism consists only of instantaneous spacetime "objects" and their sums, a few of which we select for attention. But there is no metaphysical difference between ordinary objects (putatively, the sums that we recognize) and arbitrary sums.

³² More formally: *y* is a sum of the *x*s =_{df} $\forall z(z \text{ is one of the } x\text{s} \rightarrow z \text{ is a part of } y) \ \& \ \forall z[(z \text{ is part of } y \rightarrow \exists w(w \text{ is one of the } x\text{s and } z \text{ overlaps } w))]$

³³ Since 'part' is used in many ways—'part of the problem,' 'part of the curriculum,' 'part of being a girl'—(*P*) is not a complete definition of the ordinary word 'part'. Notice, however, that 'part' is never used in English to denote 'improper part'; the word 'part' is always used in

contrast to some whole.

³⁴ Note that there is no property denoted by 'the property of having a part derivatively.'

³⁵ See Dean W. Zimmerman, 'The Constitution of Persons by Bodies: A Critique of Lynne Rudder Baker's Theory of Material Constitution,' *Philosophical Topics* 30 (2002): 295-338.

³⁶ If parthood were transitive, then we should be able to derive 'x is part of z at t' from 'x is part of y at t' and 'y is part of z at t'. But because there is an existential quantifier in each premise and in the conclusion, (P) does not allow the derivation. We should have to derive ' $\exists w_3(x \neq w_3 \ \& \ x < w_3 \ \& \ Cw_3zt)$ ' from ' $\exists w_1(x \neq w_1 \ \& \ x < w_1 \ \& \ Cw_1yt)$ ' and ' $\exists w_2(y \neq w_2 \ \& \ y < w_2 \ \& \ Cw_2zt)$ ', where the 'w's' are assigned different sums in each of the three statements. Although I do not believe that 'x is part of z at t' can be derived from 'x is part of y at t' and 'y is part of z at t', I cannot think of any examples in which the premises are true and the conclusion is false.

³⁷ But, again, the sum of the top and four legs that constitutes the table is not part of the table, according to (P).

³⁸ There are other ways to reconcile constitution with mereology. E.g., one may take atoms to have two sums at one time. See Peter van Inwagen's review of *Persons and Bodies* in *The Philosophical Review* 111 (2002): 138-141. (This suggestion is as implausible to me as it is to van Inwagen.)

³⁹ Lewis, *Parts of Classes*, pp. 81-2.

⁴⁰ I am still assuming the necessity of identity (and no counterparts).

⁴¹ Combining the idea of constitution with mereological ideas yields an analogue of the venerable distinction between aggregates and 'substances' (full-fledged objects) that philosophers like Aristotle and Leibniz insisted upon, and that David Lewis and others have no ontological room for.

⁴² There may or may not be a fundamental level, a stopping point. See Jonathan Schaffer, 'Is There a Fundamental Level?' *Noûs* 37: 498-517. Since the Constitution View is not reductionistic, it is a matter of indifference whether there is a fundamental level or not.

⁴³ Roderick Chisholm, who took genuine objects (*entia per se*) to conform to mereological essentialism, would construe my table merely as a succession of objects. As far as I can tell, he never raises the question of how I can re-identify my table over time if it is only a succession of underlying objects. See Roderick M. Chisholm, *Person and Object* (LaSalle, Ill: Open Court Publishing Co., 1976), pp. 98-104.

⁴⁴ This way of putting the point was suggested to me by Gary Matthews, who notes that the suggestion is just Aristotle's in modern dress.

⁴⁵ cf. David Lewis, 'Many, But Almost One' in *Papers in Metaphysics and Epistemology* (Cambridge: Cambridge University Press, 1999): 164-182.

⁴⁶ I am very grateful to Gareth B. Matthews and to Edmund L. Gettier for much help with the ideas expressed here.