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## The Very Idea of Material Constitution

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We run into instances of material constitution everywhere we turn. Material constitution is the relation that obtains between an octagonal piece of metal and a Stop sign, between strands of DNA molecules and genes, between pieces of paper and dollar bills, between stones and monuments, between lumps of clay and statues, between human persons and their bodies—the list is endless. Although there has been a great deal of controversy recently about the nature of material constitution, I want to enter the fray by setting out and defending an explicit definition of what it is for an object  $x$  to constitute an object  $y$  at time  $t$ .

There are several reasons for me to be explicit about constitution. First, as I have argued elsewhere, I think that constitution cannot be understood as identity.<sup>1</sup> But if constitution is not identity, what exactly is it? In this paper, I am going to try to say.

Second, I start with different assumptions from other writers on constitution.

Philosophers typically treat constitution as a matter of relations between things and their parts.<sup>2</sup> But that approach seems plausible only if one overlooks things (like artworks)

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<sup>1</sup> See my “Why Constitution is Not Identity,” *Journal of Philosophy* 94 (1997):599-621.

<sup>2</sup> What worries many philosophers is that some things seem more tightly tied to their parts than do others: an ordinary thing (like your car or my house) seems to be able to gain and lose parts and change size, while its “constituting matter” cannot survive similar material change. Mark Johnston uses the term ‘constituting matter’ in “Constitution is Not Identity,” *Mind* 101 (1992): 89-105. The question that occupies many philosophers is this: How can “brittle objects”—objects that can neither gain or lose parts or particles, nor can change size—spatially coincide with familiar objects that can gain or lose parts and particles and can change size? The term ‘brittle objects’ comes from Crawford L. Elder, “Essential Properties and Coinciding Objects,” *Philosophy and Phenomenological Research* 58 (1998): 317-333. See also Judith Jarvis Thomson, who casts the issue in terms of differences in how tightly different things are tied to their parts, in “The Statue and the Clay” *Nous* 32 (1998): 149-173.;” and Michael Rea, who says that the problem “arises whenever it appears that an object  $a$  and an object  $b$  constitute one another and yet are essentially related to their parts in different ways,” in “The Problem of Material Constitution” (*The*

that have nonintrinsic properties essentially.<sup>3</sup> To understand a thing whose identity is not determined by the identity of its parts and the parts' relations to each other, we need to look beyond mereology. So, I take a different tack and focus on relations between kinds of familiar, medium-sized objects. Third and finally, on my view, constitution is a relation of genuine unity. As I shall develop it, the idea of constitution is not just a recapitulation of the notion, discussed by a number of philosophers, that two distinct entities can be spatially coincident.<sup>4</sup>

Although constitution is not identity, understood in a strict, or Leibnizian, sense, it is in many ways similar to identity.<sup>5</sup> We need constitution to be similar to identity in

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*Philosophical Review* 104 (1995): 527. Others who start with a similar problematic (but propose different solutions) recently include Michael 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); and Dean Zimmerman, "Theories of Masses and Problems of Constitution," *Philosophical Review* 104 (1995): 53-110.

<sup>3</sup> See my "Why Constitution is Not Identity," *The Journal of Philosophy* 94 (1997): 599-621. The argument there entails:  $\exists x \exists y \forall z [(z \text{ is a part of } x \leftrightarrow z \text{ is a part of } y) \ \& \ x \neq y]$ . Where things (like statues) have relational properties essentially, mereological considerations cannot answer questions about constitution.

<sup>4</sup> In *Material Constitution: A Reader* (Lanham MD: Rowman & Littlefield Publishers, 1997) the editor, Michael C. Rea has handily collected some of the most important of the papers on coincident entities: David Wiggins' "On Being in the Same Place at the Same Time," pp. 3-9; Frederick C. Doepke's "Spatially Coinciding Objects," pp. 10-24; Judith Jarvis Thomson's "Parthood and Identity Across Time," 25-43; Mark Johnston's "Constitution is Not Identity," pp. 44-62; and Ernest Sosa's "Subjects Among Other Things," pp. 63-89. Also see Judith Jarvis Thomson, "The Statue and the Clay," *Nous* 32 (1998): 149-173; Peter Simons, *Parts: A Study in Ontology* (Oxford: Clarendon Press, 1987); Frederick C. Doepke, *Kinds of Things: A Theory of Personal Identity Based on Transcendental Argument* (Chicago: Open Court, 1996); Vere Chappell, "Locke on the Ontology of Matter, Living Things and Persons," *Philosophical Studies* 60 (1990): 19-32; E.J. Lowe, "Instantiation, Identity and Constitution," *Philosophical Studies* 44 (1983): 45-59; E. J. Lowe, *Kinds of Being: a Study in Individuation, Identity and the Logic of Sortal Terms* (Oxford: Basil Blackwell, 1989); Graeme Forbes, "Is There a Problem About Persistence?" *The Aristotelian Society: Supplementary Volume* 61 (1987): 137-55; J.M. Shorter, "On Coinciding in Space and Time," *Philosophy* 52 (1977): 399-408; John Pollock, *Knowledge and Justification* (Princeton: Princeton University Press, 1974); Nathan Salmon, *Reference and Essence* (Princeton: Princeton University Press, 1981); Saul Kripke, "Identity and Necessity" in *Identity and Individuation*, Milton Munitz, ed. (New York: New York University Press, 1971): pp. 163-64, fn. 19.

<sup>5</sup> I take identity to be strict, or Leibnizian, identity—not so-called contingent identity, or relative identity, or any other kind of *faux* identity. Many who use the term 'contingent identity' do distinguish that relation from genuine identity, which is construed (rightly, I think) as a necessary relation. E.g., see Stephen

order to account for the fact that if x constitutes y, then x and y share many properties; but we also need constitution to differ from identity in order to account for the fact that if x constitutes y, then x and y are of different kinds and can survive different sorts of changes. Since a large part of my task is to distinguish constitution from identity, I will be emphasizing ways in which x and y are distinct if x constitutes y. But too much emphasis on their distinctness would be misleading: for when x constitutes y, x and y are not separate independently-existing individuals. I want to make sense of constitution as a third category, intermediate between strict identity and separate existence.<sup>6</sup>

### **A Description of Constitution**

As an example, let's start with Michelangelo's *David*—which I take to be a three-dimensional object that has endured for almost 500 years.<sup>7</sup> *David* is a magnificent statue constituted by a certain piece of marble; call that piece of marble 'Piece.'<sup>8</sup> But, as I

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Yablo, who uses the term 'contingent identity' to refer to things that are "distinct *by nature*, but the same *in the circumstances*." (296) See his "Identity, Essence, and Indiscernibility" (*Journal of Philosophy* 84 (1987): 293-314. I think that it is misleading to insist that 'contingent identity' names a relation that is not identity.

<sup>6</sup> Attempts to make sense of a relation between strict identity and separateness have a long history. According to Gareth B. Matthews, Aristotle distinguished several senses of 'same.' In an accidental sense, Corsicus and the masked man are the same, but they are not identical. If a is accidentally the same as b, then a and b are "in a way (pos), or in a sense, the same, and in a way, or in a sense, different—though not absolutely (haplos) different." Gareth B. Matthews, "Accidental Unities" in *Language and Logos: Studies in Ancient Greek Philosophy Presented to G.E.L. Owen*, edited by Malcolm Schofield and Martha Craven Nussbaum (Cambridge: Cambridge University Press, 1982): 229.

<sup>7</sup> Denial of the identity of the statue and the piece of marble does not by itself commit one to constitution. An alternative to constitution is to construe objects as four-dimensional space-time worms that have temporal parts; then, although the statue and the piece of marble are not identical, they have current temporal "stages" that are identical. I cannot discuss this alternative here. See David Lewis, "Postscripts to 'Survival and Identity,'" in *Philosophical Papers*, Volume I (New York: Oxford University Press, 1983): 76-77. For a critique of the temporal-parts view, see Judith Jarvis Thomson, "Parthood and Identity Across Time," *The Journal of Philosophy* 80 (1983): 201-220.

<sup>8</sup> I am assuming that the piece of marble that now constitutes *David* is the same piece of marble as one of a different shape that was once in a quarry. If you think that shape is essential to pieces of marble, then change the example to the one I used in "Why Constitution is Not Identity," where the statue, *Discobolus*, comes into existence at the same time as the piece of bronze that constitutes it. See my "Why Constitution is Not Identity," *Journal of Philosophy* 94 (1997): 599-621.

argued in “Why Constitution is Not Identity,” *David* (the piece of sculpture, the artwork) is not identical to Piece. For *David* has a modal property that Piece lacks: *the property of being a statue wherever and whenever it exists.*<sup>9</sup> Consequently, the correct account of constitution will have to be more complicated than identity. On the other hand, *David* and Piece are not just two independent individuals. For one thing, many of *David*’s aesthetic properties depend on Piece’s physical properties: *David*’s pent-up energy depends on, among other things, the way that the marble is shaped to distribute the weight. Moreover, *David* and Piece share many properties: they have the same size, weight, color, smell and so on. And their similarity is no accident: for *David* does not exist separately from Piece. Nor does *David* have Piece as a proper part. For, pretty clearly, *David* is not identical to Piece plus some other thing. *David* is neither identical to nor independent from Piece. My account of constitution will show, I hope, how this can be so.

The basic idea of constitution as I construe it is this: when certain things with certain properties are in certain circumstances, new things with new properties come into existence. For example, when a combination of chemicals occurs in a certain environment, a new thing comes into existence: an organism. Or, when a large stone is placed in certain circumstances, it acquires new properties, and a new thing--a monument to those who died in battle--comes into being. And the constituted thing (the monument)

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Also, I am following Allan Gibbard here, who takes it that clay statues and lumps of clay “can be designated with proper names.” “Contingent Identity,” 190. It is admittedly odd to name a piece of marble. The oddness stems from what we might call ‘the convention of naming:’ If x constitutes y, and y constitutes nothing else, then a name of the composite object is a name of y. We name statues, not pieces of marble; monuments (The Vietnam Memorial), not pieces of granite; persons, not bodies. Of course, we can give a name to anything we want. And for the purpose of hand, it is useful to name the piece of marble; but I recognize that this is not what we ordinarily do.

<sup>9</sup> Note that some philosophers who disagree with me about constitution may not dissent on this point. E.g., In “Preserving the Principle of One Object to a Place,” Michael Burke grants the essentiality of statuehood. And in “Essentialism” in the *Routledge Encyclopedia of Philosophy* (London: Routledge, 1998), Stephen Yablo regards a painting as essentially a painting.

has effects in virtue of having properties that the constituting thing (the stone) would not have had if it had not constituted a monument. The monument attracts speakers and small crowds on patriotic holidays; it brings tears to people's eyes; it arouses protests. Had it not constituted a monument, the large stone would have had none of these effects. When stones first came to constitute monuments, a new kind of thing with new properties--properties that are causally efficacious--came into being.

Constitution is a contingent relation between individual things. First, constitution is a relation between *individual* things.<sup>10</sup> The relata of the constitution relation are not properties (e.g., the property of having atomic number 79); so, constitution must be distinguished sharply from supervenience.<sup>11</sup> Nor is "stuff" (e.g., gold) a relatum of the constitution relation. As I am using the term 'constitution,' *David* is constituted by a *piece* of marble, not by marble as stuff.<sup>12</sup> Of course, *David* is made of marble, but the

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<sup>10</sup> In "The Statue and the Clay" (*Nous* 32 (1998): 149-173), Judith Jarvis Thomson also sets out to define 'constitution' for artifacts, but she takes constitution to be a relation between an artifact and some portion of matter. This is not my conception for two reasons: (1) The identity conditions for portions of matter don't seem to fit my intuitions about constitution. On Thomson's view, a portion of M (where 'M' is short for a mass-noun like 'clay' or 'soup') has all its parts that are large enough to be lumps, mounds, heaps [etc.] of M essentially. Suppose that I have a cotton dress, and suppose that it is constituted at t1 by a certain portion of cotton, P1. Now suppose that I cut a tiny swatch from an inside seam as a color sample that I'll use to match shoes. I take it that anything large enough to be a color sample is itself a portion; hence, after I cut my swatch, P1 no longer exists at t2. In that case, my dress is constituted at t2 by a different portion of cotton, P2. On the contrary, I have a strong intuition(!) that my dress is constituted by the same thing at t1 and at t2. So, I don't think that what constitutes my dress is a portion of cotton, but rather a piece of cotton (which can survive loss of a swatch).

(2) I do not think that portions of matter are ontologically significant. I do not quantify over portions of matter. I see no need for an intermediate level between, e.g., pieces of cloth ("things") and bunches of molecules. (The persistence condition for a bunch of molecules is simply that the bunch persists for as long as all the molecules in the bunch persist, whatever their spatial locations; I use 'bunch' because as far as I know, it's not used in the literature with some meaning that I don't intend.) Things are significant, and bunches of molecules are significant; but, on my view, portions are not.

<sup>11</sup> Failure to distinguish between supervenience and constitution has caused a great deal of confusion in the philosophy of mind. See my *Explaining Attitudes: A Practical Approach to the Mind* (Cambridge: Cambridge University Press, 1995): 132. For detailed discussions of supervenience, see Jaegwon Kim's *Supervenience and Mind* (Cambridge: Cambridge University Press, 1993).

<sup>12</sup> For an interesting discussion of stuff and things, see Vere Chappell, "Matter," *Journal of Philosophy* 70 (1973): 679-696.

relation between a constituted thing and some stuff is not what I am calling constitution. What enters into the constitution relation is a marble thing (that I have named 'Piece'), not mere stuff. Second, constitution is a *contingent* relation: Piece could have existed and yet failed to constitute anything at all. If x constitutes y at some time, then the existence of x at that time does not by itself entail the existence of y.<sup>13</sup>

Call an object 'intentional' if it could not exist in a world without propositional attitudes. Then, many familiar constituted things are intentional (in this sense): carburetors, cathedrals, menus, birth certificates, flags, search warrants, trophies, and passports.<sup>14</sup> But it is important to recognize that not all constituted things are intentional. Genes are constituted by strands of DNA molecules, but genes are not intentional entities in the sense just specified.<sup>15</sup> (Presumably, there were genes before there were any creatures with propositional attitudes.) So, appeal to constitution involves no special pleading on behalf of the intentional. Indeed, a prominent virtue of the notion of constitution is that it yields a single account of both intentional and nonintentional individuals, without reducing intentional to nonintentional individuals.

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<sup>13</sup> In many cases (though not, perhaps, in *David's* case), the converse also holds: y constitutes x & x could have been constituted by something other than y. Although I do not endorse Kripke's doctrine of the necessity of origin as a general thesis, I would agree that in some cases a thing has its origin essentially. See *Naming and Necessity* (Cambridge MA: Harvard University Press, 1980).

<sup>14</sup> A number of philosophers (e.g., Richard Boyd, Hillary Kornblith and Derk Pereboom) hold that (token) beliefs and other attitudes are constituted by (token) brain states, without being identical to the brain states that constitute them. For reasons given in *Explaining Attitudes*, I do not endorse that claim. However, I believe that the view of constitution developed in this paper could help make clear what it might mean to say that (token) beliefs are constituted by, but not identical to, brain states.

<sup>15</sup> Note that genes, like statues, have relational properties essentially. Something is a gene only in virtue of its relational properties. An otherwise empty world, in which a few strands of DNA molecules coalesced, would not thereby contain genes. In order for strands of DNA molecules to be genes, they must play a certain role in the reproduction of organisms.

## A Schema for ‘Constitution’

The features of constitution may be codified. For codification, I need two ideas: the idea of a primary kind, and the idea of what I’ll call ‘circumstances.’ Each concrete individual is fundamentally a member of exactly one kind--call it its ‘primary kind.’ To answer the question, “What most fundamentally is x?” we cite x’s primary kind by using a substance noun: e.g., ‘a horse,’ or ‘a bowl.’ x’s primary kind is a kind of thing, not just “stuff:” The Nile’s primary kind is not just water, but a river (of water); the Vietnam Memorial’s primary kind is monument, not granite. Since *David’s* primary kind, for example, is a statue, call the property of being a statue *David’s* ‘primary-kind property.’ An important feature of primary kinds is this: An individual has its primary-kind essentially. It can not cease to have its primary-kind property without ceasing to exist. If being a horse is a primary-kind property, then a world like ours except that it lacked horses would be a world with fewer things in it than our world. Contrast, say, husbands, which are not a primary kind: a world like ours except that it lacked the institution of marriage (and hence had no husbands) would not thereby have fewer things in it than our world. So, in general, if being an F is x’s primary-kind property, then being an F is essential to x: it is impossible for anything that is not an F to be (identical to) x.<sup>16</sup>

It would be useful to have a theory of primary kinds. The general question that a theory of primary kinds would answer is this: Under what conditions does one thing come to constitute a new entity, as opposed to simply gaining a property? For example,

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<sup>16</sup> As we shall see when I discuss ‘having properties derivatively,’ it is possible, for some x, y, and H that x has H essentially, and y has H nonessentially. E.g., *David* has the property of being a statue essentially; *Piece* borrows the property of being a statue from *David*, and *Piece* has the property of being a statue contingently. To put it differently, being an F (e.g., being a statue) may be x’s (e.g., *David’s*) primary-kind property, and y (e.g., *Piece*) may have the property of being an F by borrowing that property from x. In that case, being an F is not y’s primary-kind property.

suppose that I buy an anvil with the intention of using it to hold open the barn door, and that I use it in that capacity for years. Does the anvil now constitute a doorstep? Is the doorstep an entity distinct from the anvil? Well, the anvil does have the property of being a doorstep, but I doubt that many would say that the doorstep is an entity distinct from the anvil. Being a doorstep is just a property that the anvil acquired. A theory of primary kinds would provide a principled way to distinguish between cases (like the anvil/doorstop) in which an object merely acquires a property and cases (like *Piece/David*) in which a new entity comes into existence. Since a theory of primary kinds would be tantamount to a theory of everything, however, it is not surprising (though still regrettable) that I do not have one. And since we are constantly bringing into existence new kinds of things--from airliners to cell phones--there is no saying in advance exactly what the primary kinds will turn out to be.

In the absence of a theory of primary kinds, let me suggest a consideration that would lead us to say whether a case is one of constitution or of mere property acquisition. If x constitutes y, then y has whole classes of causal properties that x would not have had if x had not constituted anything. The anvil acquires the property of being a doorstep by my enlisting a physical property of the anvil--its heaviness--for a special purpose: to hold open the barn door. The use of the anvil as a doorstep does not bring about instantiation of whole classes of properties that anvils per se do not have. On the other hand, *David* has many causal properties of different kinds that *Piece* would not have had if *Piece* had not constituted anything. And you and I have uncountably many causal properties that our bodies would not have had if they had not constituted anything--from hoping to have a good time at graduation, to making a will, to lending money to a friend, to serving on a jury, and on and on. So, even without a theory of primary kinds, we have some clear cases of constitution, and we have a characteristic--the constituted thing has different

kinds of causal properties from those that the constituting thing would have had if it had not constituted anything--that marks off constitution from mere property acquisition. In any case, in order to define 'x constitutes y at t,' I need the idea of a primary kind.

Second, in order to define 'x constitutes y at t' in full generality, I need a variable for different answers to the question: In virtue of what is y the kind of thing that it is? For example, it is in virtue of certain legal conventions that a particular piece of paper constitutes a marriage license; it is in virtue of the arrangement of molecules that something constitutes a block of ice; it is in virtue of its evolutionary history that a particular conglomerate of cells constitutes a human heart.<sup>17</sup> I'll call the various answers 'circumstances.' It is only in certain circumstances--different circumstances for marriage licenses and human hearts--that one thing constitutes another. It is in virtue of one kind of circumstance that the piece of paper constitutes a marriage license, and it is in virtue of an entirely different kind of circumstance that the conglomerate of cells constitutes a human heart. The variable for 'circumstances' ('D') ranges over states of affairs in virtue of which something is the kind of thing that it is.

Many properties can be instantiated only in certain circumstances. For example, the property of being a national flag can be instantiated only in circumstances where there are beings with certain kinds of intentional states, where there are certain kinds of social and political entities and certain conventions. Such circumstances are essential to national flags: nothing is a flag without them. For any property of being a G, where G is a primary kind, call the milieu required for something to be a G 'G-favorable' circumstances. G-favorable circumstances are the total background conditions which must obtain for something to have G. For any particular place and time, the presence of G-favorable circumstances is necessary for the property G to be instantiated then and

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<sup>17</sup> At least, this is the view of Ruth Millikan.

there; but the presence of G-favorable circumstances by itself is not sufficient for G to be instantiated then and there.<sup>18</sup>

An informal idea of material constitution is this: Where being an F and being a G are distinct primary-kind properties, it is possible that an F exist without there being any spatially coincident G. However, if an F is in G-favorable circumstances, then there is a new entity, a G, that is spatially coincident with the F but not identical to it.

Now let me offer a general schema for ‘constitution.’ To allow for the possibility that x may constitute y at one time, but not at another, I have a variable for time; but I’ll drop the time-index later where it does not matter. Let *being an F* be x’s primary-kind property, and *being a G* be y’s primary-kind property, where *being an F* ≠ *being a G*, and D be G-favorable circumstances. Let ‘F\*’ stand for ‘has the property of being an F as its primary-kind property’ and ‘G\*’ stand for ‘has the property of being a G as its primary-kind property.’<sup>19</sup> Then:

Definition of ‘Constitution’

- (C) x constitutes y at t =<sub>df</sub>
- (a) x and y are spatially coincident at t; and
  - (b) x is in D at t; and
  - (c) It is necessary that:  $\forall z[(F^*z \& z \text{ is in } D \text{ at } t) \rightarrow \exists u(G^*u \& u \text{ is spatially coincident with } z \text{ at } t)]$ ; and
  - (d) It is possible that: (x exists at t &  $\sim \exists w[G^*w \& w \text{ is spatially coincident with } x \text{ at } t]$ ).

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<sup>18</sup> The reason for the locution ‘at any particular place or time’ is that perhaps the existence of an artworld is required for something to be an artwork. The existence of an artworld by itself may well entail that there are artworks, without entailing--for any particular place or time--that the property of being an artwork is instantiated there.

<sup>19</sup> The reason to distinguish F\* and G\* from being an F and being a G is that some x may have the property of being an F derivatively, in which case x is an F but being an F is not x’s primary-kind property.

(e) y has no nonspatial parts at t unless x has nonspatial parts at t.

Let me make three brief comments about (C): First, although I ultimately want to use (C) to show that human persons are material beings, (C) does not rule out there being immaterial things, or even immaterial beings that are constituted. But (e) requires that if there are immaterial constituted things, they are not constituted by wholly material things. Assuming that all the parts of human bodies are spatial parts, then (e) excludes the possibility that a human body could constitute a Cartesian person, where a Cartesian person is defined as consisting of two parts: a body and an immaterial soul.<sup>20</sup> Second, the modalities in (c) and (d)--'it is necessary that' and 'it is possible that'--are context-dependent. For any actual situation, there will be relevant alternative situations to be considered. To avoid vacuous satisfaction of (c), the relevant alternatives are always to include some in which the F is in G-favorable circumstances. The examples that I'll give in a moment will make clearer how to interpret the modalities. Third, (C) yields what I think are the intuitively correct properties of constitution. (C) guarantees that constitution is not identity. Constitution is an irreflexive relation: clause (d) guarantees that nothing constitutes itself. Constitution is an asymmetric relation: If x constitutes y, then y does not constitute x.<sup>21</sup>

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<sup>20</sup> This counterexample to an earlier definition was proposed by Anil K. Gupta.

<sup>21</sup> To see that constitution is asymmetric, proceed by cases. Suppose that a (with primary-kind property F) constitutes b (with primary-kind property G).

**Case 1:** Necessarily, everything with primary-kind property G is constituted by something with primary-kind property F. In Case 1, it is not possible that a G exists but no spatially coincident F exists. But if b also constituted a, then by (d) it would be possible that a G exists and no spatially coincident F exists. So, in Case 1, if a constitutes b, then b does not constitute a (since (d) is not satisfied for 'b constitutes a').

**Case 2:** Not necessarily everything with primary-kind property G is constituted by something with primary-kind property F. (Certain G-things that are instances of Case 2 are multiply realizable.) In Case 2, it is not necessary that for every G in F-favorable circumstances, there is a spatially coincident F. (For example, a statue may be in piece-of-marble-favorable circumstances and yet be constituted by a piece of bronze, in which case there is no piece of marble spatially coincident with the statue.) But if b also constituted a, then by (c) necessarily, for any G in F-favorable circumstances, there would be a spatially coincident F. So, in Case 2, if a constitutes b, then b does not constitute a (since (c) is not satisfied for 'b

Now let me illustrate (C) by showing how *David* and Piece satisfy it. Let the property of being an F be the property of being a piece of marble (Piece's primary-kind property). Let the property of being a G be the property of being a statue (*David's* primary-kind property). Now let D be the circumstance of being presented as a three-dimensional figure in an artworld, given a title, and put on display (or whatever is required by the correct theory of art for something to be a statue). Then,

- (a) Piece and *David* are spatially coincident at t; and
- (b) Piece is in the circumstance of being presented as a three-dimensional figure in an artworld, given a title, and put on display at t.
- (c) It is necessary that: if anything that has being a piece of marble as its primary-kind property is presented as a three-dimensional figure in an artworld, given a title, and put on display at t, then there is something that has being a statue as its primary-kind property that is spatially coincident with the piece of marble at t.
- (d) It is possible that: Piece exists at t and that no spatially coincident thing that has being a statue as its primary-kind property exists at t.
- (e) Neither Piece nor *David* has nonspatial parts.

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constitutes a'). Case 1 and Case 2 exhaust the possibilities. Therefore, constitution is asymmetric.

Constitution is also nontransitive. In order to derive 'x constitutes z at t' from 'x constitutes y at t' and 'y constitutes z at t,' the H-favorable circumstances (where H is z's primary-kind property) would have to include the G-favorable circumstances (where G is y's primary-kind property). But in general something can be in H-favorable circumstances without being in G-favorable circumstances. Even though constitution is nontransitive, there are chains of constitutionally-related things all the way "down" to fundamental particles. Say that 'x is constitutionally-linked to y' if and only if: Either y constitutes x or  $\exists z_1, \dots, z_n [y \text{ constitutes } z_1 \ \& \ z_1 \text{ constitutes } z_2 \ \& \dots \ \& \ z_n \text{ constitutes } x]$  or x constitutes y or  $\exists z_1, \dots, z_m [x \text{ constitutes } z_1 \ \& \ z_1 \text{ constitutes } z_2 \ \& \dots \ \& \ z_m \text{ constitutes } y]$ . With this definition, we can formulate a weak thesis of materialism: Every concrete thing is either a fundamental particle or is constitutionally linked to an aggregate of fundamental particles.

*David* would not exist but for the relational and intentional properties of the piece of marble: On (almost?) every theory of art, something is an artwork in virtue of its relations to something else--the artist, the art world, the history of the medium.<sup>22</sup> The moral here is that what makes a thing the thing that it is--*David*, for example--may be its relational properties, and not always, as tradition has held, its nonrelational properties. Although a number of philosophers have discussed the relation between things like *David* and Piece, they have assumed that something is the thing that it is in virtue of its nonrelational properties.<sup>23</sup> I think that it is time to put aside the longstanding prejudice that what x really is--in itself, in its nature--is determined exclusively by x's nonrelational properties. In many cases--as we have seen with *David*--there is no x to be considered in isolation, apart from everything else: to abstract away from all the relations would be to abstract away from the relatum.

### **Having Properties Derivatively**

Constitution is, as I have said, a unity relation; it is not mere spatial coincidence. Some critics of constitution-without-identity speak as if, according to that idea, a particular piece of marble and a particular statue are two things that just happen to occupy the same space.<sup>24</sup> But these critics seriously misinterpret the idea of constitution-without-identity. For when x constitutes y, there is a unitary thing—y, as constituted by x—the identity of which is determined by the identity of y. So, what I show the agent behind the airline ticket counter is a driver's license, constituted by a piece of plastic.<sup>25</sup>

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<sup>22</sup> Thus, I dissent from those who take statues to be determined by shape (e.g., "statuesque").

<sup>23</sup> A recent example may be found in Michael Della Rocca, "Essentialists and Essentialism," *Journal of Philosophy* 93 (1996): 186-202. In "Why Constitution is Not Identity," I have a direct argument against Della Rocca.

<sup>24</sup> Michael B. Burke, "Copper Statues and Pieces of Copper," *Analysis* 52 (1992): 12-17.

Nevertheless, since the driver's license and the constituting piece of plastic are not identical, we may speak of the properties of each. The driver's license has some of its properties (e.g., being shiny) in virtue of being constituted by the piece of plastic; and the piece of plastic has some of its properties (e.g., allowing me to proceed through check-in) in virtue of constituting a driver's license. In general, an ordinary thing will have some, but not all, of its properties in virtue of constituting something or of being constituted by something. This important feature of constitution induces a distinction between having a property nonderivatively and having a property derivatively.

Say that *x* and *y* have constitution-relations if and only if either *x* constitutes *y* or *y* constitutes *x*. The basic idea of having a property derivatively is this: *x* has *H* derivatively if and only if *x*'s having *H* depends wholly on *x*'s constitution-relations to something that has *H* independently of its constitution-relations to *x*. If *x* constitutes *y*, then *x* and *y* share many properties: *David* is over 6 feet tall and so is *Piece*. But since *David* derives the property of being over 6 feet tall from *Piece*, *David* has that property derivatively. It is important to note that having properties derivatively is a two-way street. If *x* constitutes *y*, then *x* (as well as *y*) has some of its properties derivatively. For example, suppose that it were illegal to burn a U. S. flag, and consider a particular U.S. flag, constituted by a particular piece of cloth. Its being illegal to burn the flag makes it illegal to burn the constituting cloth. But the flag does not derive the property of being an *x* such that it is illegal to burn *x* from the piece of cloth that constitutes the flag.

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<sup>25</sup> In "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), Burke offers a view that seems to fit parts of this description. As I understand it, Burke's account, applied to the relation between persons and bodies, has the following as a consequence: Human-body 1 (a fetus, when it is not a person) is not the same human body as Human-body 2 (an adult, who is a person spatiotemporally continuous with Human-body 1). This consequence seems implausible. Whatever we say about persons and bodies, surely there is only one human body throughout—from fetus to corpse. My view of persons and bodies allows that there is a single human body, and at times it constitutes a person and at other times, it does not.

Clearly, the direction of fit is the other way. What makes it illegal to burn the piece of cloth is that the piece of cloth constitutes a U.S. flag. Legislators write laws to protect national symbols, not to protect pieces of cloth.

To be more precise about the notion of having properties derivatively, we need to define three special classes of properties. (a) Call any property expressed in English with the locutions ‘possibly,’ ‘necessarily,’ ‘...would be’ or variants of such terms, ‘an alethic property.’ (b) Call any property expressed in English with the locutions ‘is identical to’ or ‘constitutes’ or ‘exists’ or variants of such terms ‘a “constitution/identity/existence” property.’ (c) Finally, call any property such that necessarily, x has it at t only if x exists at some time other than t ‘a property rooted outside the times at which it is had.’<sup>26</sup> E.g., suppose that Piece was quarried at t and later came to constitute *David* at t’; Piece’s property at t’ of having been quarried at t is rooted outside times at which it is had. Let H range over properties that are neither alethic, nor are constitution/identity/existence, nor are such that they are rooted outside times at which they are had.<sup>27</sup> Then,

(I) x has H at t independently of x’s constitution-relations to y at t =<sub>df</sub>

(a) x has H at t; and

(b) Either (1) (i) x constitutes y at t, and

(ii) x’s having H at t (in the given background) does not entail that x constitutes anything at t.

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<sup>26</sup> This notion comes from Roderick Chisholm. On Chisholm’s definition, a property F is rooted outside times at which it is had if and only if: Necessarily, for any x and for any period of time p, x has the property F throughout p only if x exists at some time before or after p. See *Person and Object*, p. 100. He goes on to define ‘G may be rooted outside times at which it is had’ like this: ‘G is equivalent to a disjunction of two properties one of which is, and the other of which is not, rooted outside times at which it is had.’

<sup>27</sup> To be precise, I should bar H from ranging over properties that *may be* rooted outside the times at which they are had. A disjunctive property like being such that x is or was square *may be*, but need not be, rooted outside the time at which it is had.

- or (2) (i) y constitutes x at t, and
- (ii) x's having H at t (in the given background) does not entail that x is constituted by something that could have had H at t without constituting anything at t.

The point of (b)(1)(ii) is that, if x has H at t independently of its constitution-relations to y, and if x constitutes y at t, then x could still have had H at t (in the given background) even if x had constituted nothing at t. The point of (b)(2)(ii) is that, if x has H at t independently of its constitution-relations to y, and if y constitutes x at t, then x could still have had H at t (in the given background) regardless of whether or not what constituted x at t could have had H at t (in the given background) without constituting anything. To put the consequent differently: x's having H at t is compatible with x's being constituted at t by something that could not have had H at t (in the given background) without constituting something at t.

(b)(1)(ii) and (b)(2)(ii) are intended to capture a particular idea of dependence. The idea of dependence here concerns what is logically or metaphysically required for something to have a certain property. For example, Piece's having the shape that it has-- call it 'shape S'-- is independent of Piece's constitution-relations to *David*. (a) is satisfied since Piece has shape S. (b) is also satisfied since Piece constitutes *David* (thus satisfying (b)(1)(i)) and Piece's having shape S (in the given background, or any other background) does not entail that Piece constitutes anything (thus satisfying (b)(1)(ii)). For Piece could still have had shape S even if Piece had constituted nothing; Piece's shape is not logically or metaphysically dependent on whether or not Piece ever constitutes anything. On the other hand, *David* does not have shape S independently of its constitution relations to Piece. Although *David* does have shape S (thus satisfying (a)) and Piece constitutes *David* (thus satisfying (b)(2)(i)), nevertheless *David*'s having shape S does entail that

*David* is constituted by something that could have had shape S without constituting anything (thus violating (b)(2)(ii)). (To put it another way, (b)(2)(ii) fails because *David* could not have had shape S unless it was constituted by something that could have had shape S without constituting anything.) So, *David's* having shape S is not independent of *David's* constitution relations to Piece.

The sense of 'independence' here is not causal. In a causal sense, the dependence relation may go the other way: If Michelangelo hadn't wanted to carve a statue with shape S, Piece would not have been of shape S. In this causal sense of 'dependence,' Piece's being of shape S is causally dependent on *David's* being of shape S. But this causal sense of 'dependence' is not the one at issue. Rather, what makes it the case that *David* is of shape S--whatever brought it about--is the fact that *David* is constituted by something of shape S, where what constitutes *David* is of shape S independently of its constitution-relations (in the relevant sense of 'independence'). And the same could be said of any of *David's* other macrophysical properties, such as weight, color, texture, height, etc.<sup>28</sup> (b)(1)(ii) and (b)(2)(ii) are to be interpreted relative to a given background. The particular background played no role in the dependence of *David's* having shape S on *David's* constitution relations with Piece; for any shape of any statue depends on whatever constitutes the statue, no matter what the background. But sometimes, as we shall see, we must consider background conditions, where background conditions include relevant conventions--social, political, legal, economic.

The idea of having properties derivatively shows how something can have a property in virtue of its constitution-relations. Constitution is a unity relation that allows x to have a property in virtue of being constitutionally-related to something that has the

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<sup>28</sup> Although *David* borrows being of shape S from Piece, being of shape S is, I think, an essential property of *David's*. But it is a particular essential property--a property that must be instantiated for the particular individual *David* to exist, not a property that *David* has in virtue of being the kind of individual that he is.

property independently. If  $x$ 's having  $H$  at  $t$  depends on  $x$ 's constitution-relations to some  $y$  that has  $H$  at  $t$ , where  $y$  has  $H$  at  $t$  independently of  $y$ 's constitution-relations at  $t$ , then  $H$  has  $x$  at  $t$  derivatively. Let  $H$  range over properties that are neither alethic, nor are constitution/identity/existence, nor rooted outside times at which they are had. Then,

(D)  $x$  has  $H$  at  $t$  derivatively  $\equiv_{df}$  There is some  $y$  such that:

- (a) it is not the case that:  $x$  has  $H$  at  $t$  independently of  $x$ 's constitution-relations to  $y$  at  $t$ ; &
- (b)  $y$  has  $H$  at  $t$  independently of  $y$ 's constitution-relations to  $x$  at  $t$ .

Note that, because of (I), the definition of having a property independently of constitution-relations, satisfaction of (b) in (D) guarantees that  $x$  and  $y$  are constitutionally-related at  $t$ . For any object  $x$  and property  $F$ , if  $x$  has  $F$  but not derivatively, then  $x$  has  $F$  nonderivatively.<sup>29</sup> If  $x$  is constitutionally-related to  $y$  and  $x$  has  $H$  derivatively, it will sometimes be convenient to say that  $x$  *borrow*s the property  $H$  from  $y$ . Now let me further illustrate these definitions.

Consider a couple of properties of Betsy Ross's first U.S. flag (call it 'Flag'). Flag was constituted by a particular piece of cloth (call it 'Cloth'). Flag is rectangular, but not independently of its constitution-relations. Check the definition (I): (a) is satisfied since Flag is rectangular. (b)(2)(i) is satisfied since Cloth constitutes Flag. But (b)(2)(ii) is not satisfied: For Flag's being rectangular does entail that Flag is constituted by something that could have been rectangular without constituting anything. On the other hand, Cloth does have rectangularity independently of its constitution relations. Check the definition (I): (a) is satisfied since Cloth is rectangular. (b)(1)(i) is satisfied since Cloth constitutes Flag. And (b)(1)(ii) is satisfied since Cloth's being rectangular does not entail that Cloth

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<sup>29</sup> So, if there are basic particles that are not constituted by anything, then any properties that they have independently of what they constitute are properties that they have nonderivatively.

constitutes something that is rectangular. For Cloth could have been rectangular without constituting anything. Notice how this example also illustrates that ‘depends on’ is not a causal notion; for it is plausible to suppose that Cloth’s being rectangular did causally depend on its constituting something rectangular. Perhaps, in the given background, Cloth would not have been cut into a rectangle if it had not been used to create a rectangular flag. But metaphysically speaking, the dependence is in the other direction. Flag’s being rectangular depends (in the relevant sense) on Flag’s being constituted by something that could have been rectangular even if it had not constituted anything. Now it is easy to see that Flag has the property of being rectangular derivatively. Check definition (D): It is not the case that Flag is rectangular independently of its constitution relations to Cloth; and Cloth is rectangular independently of its constitution relations to Flag.

Now, to illustrate the qualification “in a given background,” consider the property of being revered. Here the borrowing goes the other way: Cloth borrows the property of being revered from Flag. Check the definitions. First, Flag has the property of being revered independently of its constitution relations: Flag has the property of being revered (so, clause (a) of (I) is satisfied). Likewise, clause (b)(2)(ii) of (I) is satisfied: Flag’s having the property of being revered (in the given background) does not entail that Flag is constituted by something that could have been revered without constituting anything. For Cloth could not have been revered in the given background without constituting something that was revered. This is so, because our conventions are part of the given background, and on our conventions, national symbols like flags are revered, but pieces of cloth per se are not objects of reverence. (Of course, these conventions can be abrogated by idiosyncratic revering; but in the *given* background, they were not abrogated.) If Cloth had remained in Betsy Ross’s sewing basket and had never

constituted a flag, it could never have been revered. So, Flag has the property of being revered independently of Flag's constitution-relations to Cloth. On the other hand, Cloth's having the property of being revered is not independent of Cloth's constitution-relations to Flag. This is so, because clause (b)(1)(ii) of (I) is false. For Cloth's being revered (in the given background) does entail that Cloth constitutes something that is revered, as we have already seen. Since it is not the case that Cloth is revered independently of its constitution relations; and Flag is revered independently of its constitution relations, the clauses of (D) are satisfied, and Cloth has the property of being revered derivatively.

Finally, on my view, Piece is a statue, albeit derivatively. *David* has the property of being a statue independently of its constitution-relations since *David's* being a statue does not entail that *David* is constituted by something that could have been a statue without constituting anything. It is not the case that Piece has the property of being a statue independently of its constitution relations since Piece's being a statue does entail that Piece constitutes something. So, Piece has the property of being a statue derivatively. Moreover, whereas *David* is a statue essentially, Piece--which might have remained in the quarry and constituted nothing--is a statue contingently.<sup>30</sup>

The notion of having properties derivatively makes sense of pretheoretical intuitions. For example, most people, including me, would agree that *David* has the property of being white. I account for this fact by saying that *David* has that property because *David* is constituted by something that could have been white without constituting anything. *David's* being white derives entirely from the fact that *David* is constituted by something that has the property of being white nonderivatively. Similarly,

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<sup>30</sup> For any primary-kind property, being an F, if any x is an F at all, then either x is an F essentially or x has the property of being an F derivatively.

for (certain) other of *David's* properties--e.g., being located in Florence, being 13 ft., 5 in. high, being made of marble.

To conclude this section, I would like to make several comments about the idea of having properties derivatively:

(i) My point here is metaphysical, not linguistic. I am not postulating an ambiguity in the predicative use of 'is a statue.' I take it that '*a* is a statue' is true if and only if *a* has the property of being a statue, where *a* has that property either derivatively or nonderivatively. For any property, F, if *x* has F at *t*, then  $\exists y$ (*y* has F at *t* nonderivatively and either  $x = y$  or *x* is constitutionally-related to *y* at *t*). This gives us a way to cash out what I (and others) have called "the 'is' of constitution." If '*a* is (a) G' should be read as '*a* constitutes [is constituted by] something that is (a) G,' then *a* has the property of being (a) G derivatively. For example, understanding the copula as an 'is' of constitution, 'Michelangelo's *David* is a piece of marble' should be read as 'Michelangelo's *David* is constituted by a piece of marble.' And the latter is true only if *David* has the property of being a piece of marble derivatively.

(ii) Constituted things are unified individuals. It is the unity of constituted things that underwrites the idea of having properties derivatively. If *x* constitutes *y*, then *y* is an individual that encompasses *x* (while *x* constitutes *y*). Constitution is as close to identity as a relation can get without being identity. Constitution is close enough to identity so that if *x* and *y* are constitutionally-related, then certain properties<sup>31</sup> that *x* could have had without being constitutionally-related to *y* are properties of *y* at *t* derivatively. The fact that *y* has a property at *t* derivatively just *is* the fact that at *t* *y* is constitutionally-related

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<sup>31</sup> Those that are neither alethic, nor constitution/identity/existence, nor rooted outside the times they are had.

to some *x* that has the property at *t* independently of being constitutionally-related to *y* at *t*. Again, there are two ways to have a property—nonderivatively and derivatively.

(iii) None of the following properties can ever be had derivatively: the property of being identical to a statue, the property of constituting a statue, the property of being constituted by a piece of marble. This is so, because the definition (I)—of *x*'s having *H* independently of *x*'s constitution-relations—is not defined for such properties. So, none of these properties can be had independently of constitution-relations and hence none can satisfy (D). Necessarily: if *x* has constitution-relations to *y*, and *x* has one of these noninheritable properties, then *x* has the property nonderivatively and *y* does not have it at all, derivatively or nonderivatively.

In sum, the idea of having properties derivatively walks a fine line. On the one hand, if *x* has *H* derivatively, then *x* really has *H*--piggyback, so to speak. Assuming (as I shall try to show elsewhere) that human persons are constituted by bodies, if I cut my hand, then *I* really bleed. It would be wrong for someone to say, "You aren't really bleeding; it's just your body that is bleeding." Since I am constituted by my body, when my body bleeds, I bleed. I have the property of bleeding derivatively, but I really bleed. But the fact that I am bleeding is none other than the fact that I am constituted by a body that is bleeding. So, not only does *x* really have *H* by having it derivatively, but also--and this is the other hand--if *x* has *H* derivatively, then there are not two independent instances of *H*: for *x*'s having *H* is entirely a matter of *x*'s having constitution-relations to something that has *H* nonderivatively.

## Replies to Objections

Now let me show how the idea of having properties derivatively can turn aside objections to the notion of constitution without identity. First, on what one writer calls ‘the standard account’ of the relation between copper statues and pieces of copper, *David* has the property of being a statue, but *Piece* does not.<sup>32</sup> If this is the standard account, then my construal of constitution, a la (C), is not an example of “the standard account.” For, as we have just seen, I do not want to deny that *Piece* has the property of being a statue; rather, I want to insist that *Piece* is a statue and to explicate that fact in terms of *Piece*’s constitution-relations to *David*. However, if *David* and *Piece* are both statues, there seems to be a problem. For consider the following argument, which aims to saddle the constitution view with an unpalatable conclusion:

(P<sub>1</sub>) If x is an F & y is an F & x ≠ y & x is spatially coincident with y, then  
there are two spatially coincident Fs.

(P<sub>2</sub>) *David* is a statue, and *Piece* is a statue, and *David* ≠ *Piece*, and *David*  
and *Piece* are spatially coincident.

∴ (C<sub>1</sub>) There are two spatially coincident statues.

(C<sub>1</sub>) follows from (P<sub>2</sub>), which is an instance of my view, together with a general principle, (P<sub>1</sub>). And (C<sub>1</sub>) is indeed an unpalatable conclusion. But the proponent of constitution-without-identity is not committed to (C<sub>1</sub>); for the proponent of constitution-without-identity would reject (P<sub>1</sub>) as begging the question. If the antecedent of (P<sub>1</sub>) were augmented by the addition of another conjunct (“...and neither x constitutes y nor y

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<sup>32</sup> Michael B. Burke, “Copper Statues and Pieces of Copper: A Challenge to the Standard Account,” *Analysis* 52 (1992): 14.

constitutes x”), then it would be acceptable. But in that case, (P<sub>2</sub>) would not be an instance of the revised (P<sub>1</sub>), and the argument would be invalid. The point of constitution is to open up a *via media* between identity and separateness, and as it stands, (P<sub>1</sub>) disregards this *via media*. Given that the notion of constitution is coherent--as, I think, its definition (C) shows that it is--it would hardly be effective to argue against it by ignoring it.

The reason that, where *David* is, there are not two spatially coincident statues is that Piece has the property of being a statue derivatively. That is, Piece is a statue only in virtue of its constitution relations to something that is a statue nonderivatively. *David* and Piece are not separate statues; they are not even separable.<sup>33</sup> (You can’t take them apart and get two statues; you can’t take them apart at all.) Indeed, as I see it, Piece is the *same statue* as *David*. John Perry has argued that, where ‘F’ ranges over sortals, ‘x is the same F as y’ should be analyzed as ‘x = y and Fx.’<sup>34</sup> But, on my view, Piece is the same statue as *David* in virtue of constituting *David*, not in virtue of being identical to *David*. So, I suggest amending Perry’s analysis to take account of constitution (omitting mention of time):

(S) x is the same F as y =<sub>df</sub> [(x = y or x has constitution relations to y) and Fx].

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<sup>33</sup> Philosophers who discuss constitution in terms of “spatially coincident objects” sound as if there are two independent objects that just happen to occupy the same location at the same time. Constitution, as we have seen, is a much more intimate relation than talk of “spatially coincident objects” suggests.

<sup>34</sup> John Perry, “The Same F,” *Philosophical Review* 79 (1970): 181-200. Notice that my construal no more invokes relative identity than does Perry’s.

From (S), it follows that although Piece is the same statue as *David*, Piece might not have been the same statue as *David*. (Piece might not have been a statue at all.) In general, if x and y are constitutionally related and x has the property of being an F derivatively, then x and y are the same F. Anyone who joins me in accepting (S) will reject (P<sub>1</sub>) and declare the argument unsound.

[Note that those who accept the Christian doctrine of the Trinity are in no position simply to prefer Perry's analysis to (S). For from an orthodox Trinitarian point of view, Perry's analysis cannot be correct. I'm not saying that (S) will help illuminate the doctrine of the Trinity, only that a Trinitarian has no grounds for insisting on Perry's analysis of sameness.]

Why should we accept (S)? (S), I believe, accords with the way that we actually count things.<sup>35</sup> As we have seen, constitution is intended to be a third alternative between identity and separate existence. Now how are we to count using this three-way classification? We may count either by identity ('If x and y are Fs, then there is one F only if  $x = y$ ') or by nonseparateness ('If x and y are Fs, then there is one F only if x and y are nonseparate,' where x and y are nonseparate if and only if either  $x = y$  or x is constitutionally related to y). Constitution, as I have urged, is like identity in some ways and unlike identity in other ways. Our practices of counting, I believe, align constitution with identity; x is the same F as y only if: *either*  $x = y$  *or* x has constitution-relations to y. Those who would adhere to Perry's principle in effect insist on aligning constitution with separate existence: x is the same F as y only if  $x = y$ . Since I do not think that we count by identity (but rather by nonseparateness), I reject (P<sub>1</sub>) and with it, (C<sub>1</sub>).

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<sup>35</sup> Harold Noonan comments, "It is a deeply engrained conviction in many philosophical circles that if x is an F and y is an F and x and y are not identical then x and y cannot legitimately be counted as *one* F." He notes, however, that it "is perfectly possible to count by a relation weaker than, i.e., not entailing, identity." See "Constitution is Identity," *Mind* 102 (1993): 138. In discussing fission cases of persons, David Lewis justifies counting by a weaker relation than identity in "Survival and Identity," in *The Identities of Persons*, Amelie Oksenberg Rorty, ed. (Berkeley: University of California Press, 1976): 26-28.

There may seem to be another problem with taking Piece to be a statue.<sup>36</sup> Here is a proposed counterexample to the claim that Piece is a statue (in virtue of having the property of being a statue derivatively). Suppose that Piece existed before *David*--in, say, 1499. *David* came into existence in 1504. Now suppose that Jones pointed to *David* in 1506 and said, "There is a statue over there that existed in 1499." If, as I have urged, we say that Piece is a statue, and that Piece existed in 1499, then what Jones said was true. But, one may object, what Jones said was not true since Piece did not constitute a statue in 1499.

To this objection, let me reply. What Jones said is ambiguous, and on one reading what she said was true--albeit misleading. There is something over there--viz., Piece--that has the property of being a statue and that existed in 1499. Of course, since Piece acquired that property by borrowing it from *David* and since *David* did not exist in 1499, Piece did not have the property of being a statue in 1499. But this situation has a familiar structure. For "There's a statue over there that existed in 1499," is parallel to "There's a husband over there who existed in 1950," when the husband, born in 1944, was six years old. "There's a husband over there who existed in 1950" is true on one reading and false on another. It is true if taken as:  $\exists x(x \text{ is over there} \ \& \ x \text{ is a husband} \ \& \ x \text{ existed in } 1950)$ ; but it is false if taken as:  $\exists x(x \text{ is over there} \ \& \ x \text{ was a husband in } 1950)$ . Exactly the same can be said about "There's a statue over there that existed in 1499." It is true if taken as:  $\exists x(x \text{ is over there} \ \& \ x \text{ is a statue} \ \& \ x \text{ existed in } 1499)$ ; but it is false if taken as:  $\exists x(x \text{ is over there} \ \& \ x \text{ was a statue in } 1499)$ . So, although Jones's sentence, "There is a statue over there that existed in 1499," is highly misleading, we need not deny that it is true (on one reading). Hence, the proposed counterexample does not impugn the claim that Piece has the property of being a statue (derivatively).<sup>37</sup>

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<sup>36</sup> This was brought to my attention by Anil Gupta.

There are other arguments for the identity of Piece and *David*. Consider this one.<sup>38</sup>

(P<sub>3</sub>) If *David* ≠ Piece, then if *David* weighs n kg. and Piece weighs n kg., then the shipping weight of the statue is 2n kg.

(P<sub>4</sub>) *David* weighs n kg. and Piece weighs n kg., but the shipping weight is not 2n kg.

∴(C<sub>2</sub>) *David* = Piece.

Since Piece constitutes *David*, (P<sub>3</sub>) simply ignores constitution (and hence begs the question against the view set out here). To make (P<sub>3</sub>) true, we would have to add a clause to its antecedent: “...and *David* and Piece are not constitutionally related.” But with such a clause added to (P<sub>3</sub>), the conclusion does not follow. Indeed, since Piece is the same statue as *David*, Piece’s weighing n kg. and *David*’s weighing n kg. do not combine to entail that something weighs 2n kg.

The objector may persist: “If Piece weighs n kg., and *David* ≠ Piece and the scales do not read 2n, then *David* must be weightless. But that seems wrong.” Indeed, I agree, it would be wrong; but my position does not commit me to denying that *David* has weight. *David* actually weighs n kg.: Put *David* on the scales and see. The point is that *David* weighs n kg. wholly in virtue of being constituted by something that weighs n kg. To explicate the fact that *David* weighs n kg. is not to deny that *David* weighs n kg. The

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<sup>37</sup>Husband and Piece acquired their respective properties of being a husband and being a statue in different ways. Husband is identical to something that is a husband. Piece is not identical to something that is a statue; rather, Piece constitutes something that is a statue, and borrows the (predicative) property from what it constitutes. A consequence of this is that when the property defined by a substance sortal like ‘statue’ is borrowed, the property does not entail that its bearer is a substance of the sort: Piece could lose the (borrowed) property of being a statue and continue to exist; *David* could not lose the (unborrowed) property of being a statue and continue to exist.

<sup>38</sup> Alvin Plantinga proposed a version of this argument.

fact that *David* has its weight derivatively only implies that *David's* weighing  $n$  kg. is a matter of *David's* being constituted by something that weighs  $n$  kg. nonderivatively. Since *David* has its weight derivatively, from the facts that *David* weighs  $n$  kg and that *Piece* weighs  $n$  kg, it does not follow that anything should weigh  $2n$ .

Examples could be multiplied: From the fact that Mondrian's *Broadway Boogie-Woogie* and the constituting canvas share the property of having yellow of a certain saturation at a particular location, it does not follow that at that location there is a color of twice that saturation. *Broadway Boogie-Woogie* borrows its yellow-of-that-saturation at that location from the constituting canvas. (That's why Mondrian could change the properties of the painting by changing the properties of the canvas.) The account of having properties derivatively also shows why derivative quantitative properties (e.g., being of a certain saturation, weighing  $m$  kg.) cannot be added to their nonderivative sources. The reason that derivative properties are not "additive" is that *there is nothing to add*:  $x$ 's having  $F$  derivatively is nothing other than  $x$ 's being constitutionally related to something that has  $F$  nonderivatively. Look at it this way: If  $x$  and  $y$  have constitution relations and  $x$  is an  $F$ , then  $x$  is the same  $F$  as  $y$ .<sup>39</sup> If  $x$  is the same  $F$  as  $y$ , then it is obvious that  $x$ 's quantitative properties cannot be added to  $y$ 's. *Piece* is the same statue as *David* (in virtue of constitution relations), and Tully is the same person as Cicero (in virtue of identity). So, neither can Tully's quantitative properties be added to Cicero's, nor can *Piece's* quantitative properties be added to *David's*. It is no more legitimate to add *David's* weight to *Piece's* in order to ascertain "total" weight than it would be to add the number of hairs on Cicero's head to the number of hairs on Tully's head in order to ascertain the "total" number of hairs.

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<sup>39</sup> This is true for most "ordinary" properties—i.e., properties that are neither alethic, nor constitution/identity/existence nor rooted outside times at which they are had.

Another worry that the notion of having properties derivatively dissolves is that, if the statue and the piece of marble that constitutes it are not identical, some philosophers charge, then it seems a mystery why the statue and the piece of marble have in common all of what we might call ‘ordinary properties’--first-order properties whose instantiation is independent of what is the case at other possible worlds. It cannot be just an accident, the objection goes, that the piece of marble and the statue have the same size, weight, color, smell, value and other ordinary properties. The notion of having properties derivatively accounts for these otherwise remarkable similarities: the statue has its size, weight, color and smell derivatively; and the piece of marble has its astronomical value derivatively. So, the notion of having properties derivatively answers the question: If *x* and *y* are nonidentical, why do they have so many properties in common?

But now a question arises from the other side: Supposing that *x* constitutes *y*, if *x* and *y* are so similar, how can they differ at all?<sup>40</sup> The answer is straightforward: *David* and *Piece* have different essential properties. If there were no artworld, there would be no *David*, but *Piece* could exist in a world without art.<sup>41</sup> As theories of art make clear, being an artwork at all--and hence being a statue--is a relational property. When *Piece* is in certain (statue-favorable) circumstances, a new entity (a statue, *David*) comes into existence. *Piece* has the property of being a statue because--and only because--*Piece* constitutes something that is a statue. So, despite the fact that *David* and *Piece* are alike in atomic structure, they differ in kind: The relational properties that *David* has essentially *Piece* has only accidentally. Hence, the needed asymmetry to make *David* and *Piece* different in kind is secured.

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<sup>40</sup> Michael B. Burke, “Copper Statues and Pieces of Copper: A Challenge to the Standard Account,” *Analysis* 52 (1992): 14. (12-17) Burke can imagine only two possible answers: (1) they have different histories, and (2) they have different persistence conditions. He argues that neither of these can ground a difference in sort. I discuss Burke’s argument in “Why Constitution is Not Identity.”

<sup>41</sup> I have extended discussions of this point in “Why Constitution is Not Identity.”

So, it is no mystery that *David* and *Piece* share so many of their properties without being identical: Constitution, defined by (C), insures nonidentity; and the notion of having properties derivatively accounts for the fact *David* and *Piece* are alike in so many of their properties. In sum, if x and y are constitutionally related, to say that x has a property H derivatively highlights the difference between x and y, and hence the fact that constitution is not identity; but to say that H is, nevertheless, a genuine property of x highlights the unity of x and y, and hence the similarity of identity and constitution. (This aspect of constitution is a consequence of trying to mark off an intermediate position between identity and separateness.) Constitution is an intimate relation--almost as intimate as identity, but not quite.

## **Conclusion**

This view of constitution has manifold virtues. First, it achieves what proponents of contingent-identity, relative-identity, and temporal-identity want without compromising the classical view of identity (and without using the word 'identity' to mean something other than 'identity'). Second, this view is nonreductive without being antimaterialistic: Constitution-without-identity is compatible with global supervenience of all properties on fundamental physical properties (and hence is not antimaterialistic), but it eschews an "intrinsicism" that holds that the nature of a particular is determined by the properties of the fundamental physical particles that constitute it (and hence is nonreductive). Third, and perhaps most important, this view of constitution supports an ontological pluralism that honors the genuine variety of kinds of individuals in the world. Between the Big Bang and now, genuinely new things of genuinely new kinds have come into existence--some of our own making (e.g., tractors, computers, space shuttles), others created without human intervention (e.g., planets, continents, organisms).

If you think that a world without organisms or art or artifacts is as ontologically rich as the actual world, then you will deny that the relation of constitution as I construe it is actually exemplified. In that case, presumably, you will either assimilate cases of putative constitution to cases of mere property possession or else you will deny the existence of such things as statues and pieces of marble, schools and buildings, flags and pieces of cloth.<sup>42</sup> Although I hardly know what to say to those who think that a world without art or artifacts is as ontologically rich as our world, let me trim my thesis for such an audience. The idea of constitution without identity is coherent, and therefore, a world in which constitution without identity is a predominant relation is a genuinely possible world, whether such a world is ours or not.<sup>43</sup>

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<sup>42</sup> E.g., see Peter Unger, "There are no Ordinary Things," *Synthese* 71 (1979): 117-154; and Peter van Inwagen, *Material Beings* (Ithaca NY: Cornell University Press, 1990).

<sup>43</sup> I am indebted to Albert Visser, Anil Gupta, Robert Hanna, Judith Jarvis Thomson, Amie Thomasson and to my seminar on Person and Body at UMass in the fall term, 1997.