

## Unity without Identity: A New Look at Material Constitution

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It is time to rethink age-old questions about material constitution. What is the relation between, say, a lump of clay and a statue that it makes up, or between a red and white piece of metal and a stop sign, or between a person and her body? Assuming that there is a single relation between members of each of these pairs, is the relation “strict” identity, “contingent” identity or something else?<sup>1</sup> Although this question has generated substantial controversy recently,<sup>2</sup> I believe that there is philosophical gain to be had from thinking through the issues from scratch. Many of the charges and countercharges are based on the following dichotomy: For any  $x$  and  $y$  that are related as the lump of clay is to the statue that it makes up, either  $x$  is identical to  $y$ , or  $x$  and  $y$  are separate entities, independent of each other. By giving up this dichotomy, we will be able to begin to make sense, I hope, of an intermediate unity relation that holds promise for solving a raft of philosophical problems, including the problem of how persons are related to their bodies.<sup>3</sup> And if I am correct, then this relation—constitution without identity—is ubiquitous and interesting in its own right, apart from the light that it sheds on human persons.

My overall aim here is constructive: I want to set out and defend an explicit account of what it is for an object  $x$  to constitute an object  $y$  at time  $t$ . According to my account, if  $x$  constitutes  $y$  (at any time), then  $x \neq y$ . (Thus, I reject the first half of the dichotomy above.) Although I join the ranks of those who deny that the relation between the members of any of the pairs is identity in any sense, I depart from those ranks by also denying a central aspect of what has been called “the standard account.”<sup>4</sup> Suppose that “Copper” is a name for the piece of copper that makes up a copper statue, “Statue.” According to “the standard account,” Copper is not (predicatively) a statue.<sup>5</sup> I believe that “the standard account” construes Copper and Statue as *too* separate. On my view, by contrast, the relation between Copper and Statue is

so intimate that, although Copper and Statue are not identical, Copper is, nonetheless, a statue in virtue of the fact that Copper constitutes a statue. (Thus, I reject the second half of the dichotomy.) Copper borrows the property of being a statue from Statue, where “borrowing” is spelled out in detail below. The account of borrowing properties will show why, when  $x$  constitutes  $y$  at  $t$ ,  $x$  and  $y$  share so many of their properties at  $t$ , without being identical. So, my account is intended as a third alternative, beyond the alternatives (either identity or separate existence) countenanced by the dichotomy.

Constitution is a relation in many ways similar to identity, but it is not the same relation as identity.<sup>6</sup> We need constitution to be similar to identity in order to account for the fact that if  $x$  constitutes  $y$ , then  $x$  and  $y$  are spatially coincident and 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, as we see in the case of Copper and Statue,  $x$  and  $y$  are not separate, independently existing individuals. Again: I want to make sense of constitution as a third category, intermediate between identity and separate existence.<sup>7</sup>

My starting point is with familiar things that populate the everyday world—“moderate-sized specimens of dry goods,” as J. L. Austin called them.<sup>8</sup> Beginning in *medias res*, I want to give a unified account of a fundamental relation—constitution—that holds everywhere one turns: Pieces of paper constitute dollar bills; DNA molecules constitute genes; hunks of metal constitute carburetors; bodies constitute persons; stones constitute monuments; pieces of marble constitute sculptures.<sup>9</sup> If constitution is as widespread a relation as I think it is, then there is good reason to try to develop an account of it.

### AN ACCOUNT OF CONSTITUTION

Let’s start with Michelangelo’s *David*. *David* is a magnificent statue constituted by a certain piece of marble; call it “Piece.”<sup>10</sup> But *David* (the piece of sculpture, the artwork) is not identical to Piece. If *David* and Piece were identical, then, by a version of Leibniz’s Law, there would be no property borne by Piece but not borne by *David*, and no property borne by *David* but not borne by Piece.<sup>11</sup> However, Piece (that very piece of marble) could exist in a world without art. Although I do not know how to specify conditions for individuating pieces of marble, I am confident that they do not include a relation to an artworld.<sup>12</sup> Piece could have existed in a world without art, in which case Piece would not have had the property of being a statue. By contrast, *David* could not exist without being a statue. So, *David* has a property—being a statue wherever it exists—that Piece lacks. But if *David* were identical to Piece, then it would be impossible for “one” to have a property that “the other” lacked—even an unusual modal property like *being a statue wherever and whenever it exists*. Since *David* is essentially a statue but Piece is not, *David* has a property that Piece lacks. Therefore, “constitution” is not to be defined as identity.

The reasoning leading to the conclusion that *David* is not identical to *Piece* is highly controversial, and I have defended it elsewhere.<sup>13</sup> At this point, I am only trying to illustrate the intuitions behind the notion of constitution. The basic intuition is that, as a relation between objects, identity is necessary: if  $x = y$ , then necessarily  $x = y$ .<sup>14</sup> If  $x = y$ , then  $x$  cannot differ from  $y$  in any respect, including respects in which  $x$  might have been, or might become, different from the way  $x$  is now. That is, if  $x = y$ , then  $x$  and  $y$  share their so-called “modal properties”—properties of being possibly such and such or of being necessarily such and such. I agree with Kripke when he says, “Where [ $F$ ] is any property at all, including a property involving modal operators, and if  $x$  and  $y$  are the same object and  $x$  had a certain property  $F$ , then  $y$  has to have the same property  $F$ .”<sup>15</sup> So, again, since *Piece* could exist in a world without art, but *David* could not, they differ in their (modal) properties, and hence are not identical.<sup>16</sup> Consequently, the correct account of the relation between *David* and *Piece* will have to be more complicated than simple identity.

On the other hand, as I think everyone would agree, *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. Another indication that *David* and *Piece* are not just two independent individuals is that they are spatially coincident. Not only are they located at exactly the same places at the same times, but also they are alike in many other ways as well: 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*. The relation between *David* and *Piece* is, rather, constitution.<sup>17</sup>

If I am right, then instances of constitution abound: A particular school is constituted by a certain building, which in turn is constituted by an aggregate of bricks. (The same high school could have been constituted by a different building; the same building that in fact constituted the high school could have constituted an office building.) There are, of course, limits on what can constitute what, and the limits differ depending on the kind of thing in question. Not just anything could have constituted *David*: if Michelangelo had carved a 12-cm male nude out of jade and named it “David,” it would not have been *David*; it would not have been the very same statue that we call “David.” To take other examples, my car could not have been constituted by a soap bubble; nor could Kripke's lectern have been constituted by a block of ice.<sup>18</sup> A soap bubble is too ephemeral to constitute a car, and a block of ice, which melts fairly quickly, is unsuited to play a “lectern-role” in our temperatures. Further, some things—ships, but perhaps not statues—may be constituted by different things at different times.<sup>19</sup>

The basic idea behind the notion of constitution 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 stone monument) 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>20</sup> Neither “stuff” (e.g., gold) nor properties (e.g., the property of having atomic number 79) are *relata* of the constitution relation.<sup>21</sup> As I am using the term “constitution,” *David* is constituted by a *piece* of marble, not by marble as stuff.<sup>22</sup> Of course, *David* is made of marble, but the 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>23</sup>

Many of the relational properties that make something the thing that it is are intentional. For example, as we have seen, nothing would be *David* that failed to be a statue, and nothing could be a statue except in relation to an artworld, or an artist's intention, or something else that resists nonintentional description. Let us say that a property *H* is intentional if and only if *H* could not be exemplified in a world in which no one ever had a belief, desire, intention, hope, expectation, fear, or other propositional attitude. And let us say that a particular thing, *x*, is an intentional object if and only if *x* could not exist in a world in which no one had ever had a belief, desire, intention, hope, expectation, fear, or other propositional attitudes. (“Intentional relation” and “intentional phenomenon” may be defined similarly.) Then, artifacts and artworks, as well as persons and passports, are intentional objects.<sup>24</sup> Indeed, many familiar objects are intentional objects: carburetors, cathedrals, menus, birth certificates, flags, search warrants, trophies, obituaries.

But it is important to recognize that not all constituted things are intentional. Genes are constituted by DNA molecules. Something is a gene only in virtue of its relational properties. An otherwise empty world, in which a few DNA molecules coalesced, would not thereby contain genes. In order for DNA molecules to be genes, they must play a certain role in the reproduction of organisms. Although genes are constituted things, they are paradigmatically not intentional entities in the sense just specified. (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.

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: for example, “a horse,” or “a bowl.” *x*'s

primary kind is a kind of thing, not just “stuff”; Piece’s primary kind is not just marble, but a piece of marble; the Nile’s primary kind is not just water, but a river (of water). 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 object could not cease to have its primary-kind property without ceasing to exist. If being a horse is a primary-kind property, then if we change the number of horses (and nothing else), we change the number of things in the world. Contrast, say, husbands, which are not a primary kind: fewer husbands may leave the number of objects in the world unchanged. So, 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>25</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, 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. Is the doorstep an entity distinct from the anvil? Does the anvil now constitute a doorstep? 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 personal computers—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 our 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 having a good time at graduation, to lending money to a friend, to landing a good teaching job, 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 two characteristics—the constituted thing is stable and has different kinds of causal properties than the constituting thing would have had if it had not constituted anything—that mark 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>26</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, 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 primary-kind property  $G$ , such as the property of being a national flag, call the milieu required for something to have  $G$ , " $G$ -favorable" circumstances.  $G$ -favorable circumstances are the total background conditions that 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 there; but the presence of  $G$ -favorable circumstances by itself is not sufficient for  $G$  to be instantiated then and there.<sup>27</sup>

An informal idea of material constitution is this: where  $F$  and  $G$  are distinct primary-kind properties, it is possible that an  $F$  exists 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 continue to drop the time index later where it does not matter. Let  $F$  be  $x$ 's primary-kind property, and  $G$  be  $y$ 's primary-kind property, where  $F \neq G$ , and  $D$  be  $G$ -favorable circumstances. Let  $F^*$  be the property of having  $F$  as one's primary-kind property and  $G^*$  be the property of having  $G$  as one's primary-kind property.<sup>28</sup> Then,

- (C)  $x$  constitutes  $y$  at  $t =_{df}$
- (a)  $x$  and  $y$  are spatially coincident at  $t$  and share all the same material parts at  $t$ ; and
  - (b)  $x$  is in  $D$  at  $t$ ; and
  - (c) It is necessary that  $\forall z[(F^*zt \text{ and } z \text{ is in } D \text{ at } t) \rightarrow \exists u(G^*ut \text{ and } u \text{ is spatially coincident with } z \text{ at } t)]$ ; and
  - (d) It is possible that  $(x \text{ exists at } t \text{ and } \sim \exists w[G^*wt \text{ and } w \text{ is spatially coincident with } x \text{ at } t])$ ; and
  - (e) If  $y$  has any nonspatial parts at  $t$ , then  $x$  has the same 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>29</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. Although relevance will ultimately be determined by the facts of the actual situation, the laws of nature are to be held constant. Moreover, 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 in the next section 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>30</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* constitutes *a*”).

Case 1 and Case 2 exhaust the possibilities. Therefore, constitution is asymmetric.

Now let me illustrate (C) by showing how *David* and *Piece* satisfy it. Let *F* be the property of being a piece of marble (*Piece*'s primary-kind property). Let *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*; and
- (c) It is necessary that if anything that has been 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  $t$ ; and
- (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  $t$ ; and
- (e) Neither Piece nor *David* has nonspatial parts.

*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 artworld, the history of the medium.<sup>31</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>32</sup> I think that it is time to put aside the long-standing 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*. More strongly still, in many cases, elimination of the relations is elimination of the *relata*.

Where I depart from tradition is in taking certain relational and intentional properties to be essential properties of concrete things. Not everything that exists could exist in total isolation; hence, if there were only one thing in the world, it would not be a national flag or a gene—even if it had the characteristic pattern of three bands of red, white, and blue that in our world would constitute a national flag, or even if it had the molecular structure of a gene. Thus, I dissent from Allan Gibbard when he says, “If the statue is an entity over and above the piece of clay in that shape, then statues seem to take on a ghostly air.”<sup>33</sup> Relational properties are in no way ghostly. (Indeed, this is the lesson of externalism in philosophy of psychology. A belief that water is wet has as an essential property that the believer is in a certain kind of environment.) And it is in virtue of its relational properties that *David* exists. Even if it is also in virtue of its relational properties that Piece exists, there remains this irreducible difference between them: Piece could exist in the absence of an artworld; *David* could not.

For a long time, philosophers have distinguished the “is” of predication (as in “Mark Twain is an author”) from the “is” of identity (as in “Mark Twain is [identical to] Samuel Clemens”). If the constitution view is correct, then there is a third sense of “is,” distinct from the other two. The third sense of “is” is the “is” of constitution (as in “is (constituted by) a piece of marble.”)<sup>34</sup>

### BORROWED PROPERTIES

The distinctiveness of the relation between a constituted thing and what constitutes it spills over to the properties of constituted and constituting things. Suppose that  $x$  has  $H$ , and we ask, in virtue of what does  $x$  have  $H$ ? Sometimes the answer will be that  $x$  has  $H$  in virtue of constituting something that has  $H$  or of being constituted by something that



has *H*. This important feature of constitution requires a distinction between properties that are (as I'll say) *borrowed* and properties that are not borrowed. The basic idea of borrowing properties may be stated simply like this: Say that *x* and *y* have constitution-relations if and only if either *x* constitutes *y* or *y* constitutes *x*. *H* is a borrowed property of *x* at *t* if *x*'s having *H* at *t* derives exclusively from *x*'s being constitutionally related at *t* to something that has *H* independently at *t*.

Before developing the account of borrowing properties in greater detail, I want to emphasize an important feature of borrowing that distinguishes my construal of constitution from other construals. On my account, borrowing is a two-way street: If *x* constitutes *y* at *t*, then *x* borrows some of its properties from *y* at *t*, and *y* borrows some of its properties from *x* at *t*. A constituting thing may borrow properties from the thing that it constitutes, as well as vice versa. ("Top-down" borrowing of properties is an indication of the antireductive thrust of my position.) Many philosophers are inclined to think that constituted things borrow their properties from what constitutes them, and not vice versa. Calling this the "bottom-up-borrowing-only" claim, let me give some counterexamples to it.<sup>35</sup> To simplify, I shall drop reference to times for a moment. Suppose that among your deceased aunt's possessions, you find a small statue. You think that it is made of a chunk of gold, and you don't know whether the statue is worth any more than the chunk of gold that constitutes it. The appraiser reports that the statue is indeed made of a chunk of gold, and that the statue is worth \$10,000; the chunk of gold that constitutes the statue at *t* has a meltdown value of \$1,000.<sup>36</sup> But the statue's property of being worth \$10,000 is not borrowed from the properties of the chunk of gold that constitutes the statue. Indeed, one of the marks of a piece of fine art is that its value does not depend on the value of the materials that constitute it.

Someone may object: the chunk of gold in its present condition (in which it constitutes the statue) is worth \$10,000; it is only its meltdown value (when it would no longer constitute the statue) that is \$1,000. Of course, I agree: Being worth \$10,000 is a property that is shared by both the statue and the chunk of gold when the chunk of gold constitutes the statue. But this is no objection to the counterexample. It just illustrates the point that I want to make: the chunk of gold in its present condition of constituting a statue is worth \$10,000 *in virtue of the fact that the statue is worth \$10,000, and not the other way around*. The very same chunk of gold, in the absence of the statue, is worth only \$1,000. The statue does not borrow its worth from the chunk of gold that constitutes it; the chunk of gold borrows *its* worth from the statue that it constitutes.

The property of being worth \$10,000 is not unusual. For a constituting thing typically borrows many of its properties from the thing that it constitutes. For example, suppose that it were illegal to destroy an American flag. In that case, we should not say that the flag borrows the property of being an *x* such that it is illegal to destroy *x* from the piece of cloth that constitutes the flag. For, clearly, the direction of fit is the other way. Its being illegal to destroy *x* is a property that the piece of cloth borrows from the flag that it constitutes. Legislators write laws to protect national symbols, not to protect pieces of cloth.

Of course, these counterexamples to the bottom-up-borrowing-only claim concern relational and intentional properties. But one of my aims is to show that such

properties are crucial for understanding reality. So, on my account of constitution, borrowing goes both ways: if  $x$  constitutes  $y$  at  $t$ , then  $x$  borrows some properties from  $y$  at  $t$ , and  $y$  borrows other properties from  $x$  at  $t$ .

The notion of borrowing is a powerful tool for countering various objections to the idea of constitution without identity. Before showing how the notion of borrowing can deflect objections, let me set out the idea of borrowing more precisely. I'll try to make the idea clear by a couple of definitions, beginning with a definition of " $x$ 's having a property at  $t$  independently of  $x$ 's constitution-relations to  $y$  at  $t$ ."

We need to define three special classes of properties. (a) Call any property expressed in English with the locutions "possibly," "necessarily," or variants of such terms an "alethic property." (b) Call any property expressed in English with the locutions "is identical to" or "constitutes" ("is constituted by") or "being such that  $x$  would not exist if . . ." a "constitution/identity property." (c) Finally, say that 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  $p$ .<sup>37</sup> 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. (E.g., suppose that Piece, which later came to constitute *David* at  $t'$ , was quarried at  $t$  ( $t < t'$ ); Piece's property of having been quarried at  $t$  may be (indeed is) rooted outside times at which it is had.) Let  $H$  range over properties that neither are alethic, nor are constitution/identity, nor are such that they may be rooted outside times at which they are had. Then,

- (I)  $x$  has  $H$  at  $t$  independently of  $x$ 's constitution-relations to  $y$  at  $t =$  df
- (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  $t$ ;
 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  $H$  independently of its constitution-relations to  $y$ , and if  $x$  constitutes  $y$ , 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  $H$  independently of its constitution-relations to  $y$ , and if  $y$  constitutes  $x$ , then  $x$  could still have had  $H$  at  $t$  (in the given background) regardless of whether or not what constitutes  $x$  at  $t$  could have had  $H$  at  $t$  (in the given background) without constituting anything at  $t$ . To put the consequent differently:  $x$ 's having  $H$  at  $t$  is compatible with  $x$ 's being constituted by something that could not have had  $H$  at  $t$  (in the given background) without constituting something at  $t$ .

Clauses (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*. Clause (a) is satisfied, since Piece has shape  $S$ . Clause (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*—however it is brought 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, and so on.<sup>38</sup> Clauses (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 borrowing properties shows how something can have a property by constitution. Constitution is a unity relation that allows *x* to have a property in virtue of being constitutionally related to something that has the 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 *x* borrows *H* from *y* at *t*. Let *H* range over properties that neither are alethic, nor are constitution/identity, nor are such that they may be rooted outside times at which they are had. Then,

- (B) *x* borrows *H* from *y* at *t* =<sub>df</sub> 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*; and
  - (b) *y* has *H* at *t* independently of *y*'s constitution-relations to *x* at *t*.

Note that, because of (I), satisfaction of (b) guarantees that *x* and *y* are constitutionally related at *t*. It will be convenient later to say that *x* has *H* at *t* *derivatively* if there is some *z* such that *x* borrows *H* from *z* at *t*; and *x* has *H* at *t* *nonderivatively* if *x* has *H* at *t* without borrowing it. Now let me illustrate the definitions with some examples. From now on, for simplicity, I shall drop reference to time.

I. 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): Clause (a) is satisfied since Flag is rectangular. Clause (b)(2)(i) is satisfied since Cloth constitutes Flag. But clause (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): Clause (a) is satisfied since Cloth is rectangular. Clause (b)(1)(i) is satisfied since Cloth constitutes Flag. And clause (b)(1)(ii) is satisfied since Cloth's being rectangular does not entail that Cloth 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 borrows the property of being rectangular from Cloth. Check definition (B): 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 (B) are satisfied, and Cloth borrows the property of being revered from Flag.

II. Consider a different kind of case that further illustrates the use of “in the given background.” Buildings that constitute schools are tax-exempt, and such buildings usually borrow the property of being tax-exempt from the schools that they constitute. Typically, a building per se is not tax-exempt; it is only because it constitutes something that is tax-exempt that a building is tax-exempt. But not all situations are typical. Here is a case in which the background is not the usual one. Suppose that a certain empty building, call it “Structure,” is declared tax-exempt by a corrupt tax board (the officials are “on the take” from the owner of the building). Suppose that soon thereafter, Structure is given to a community group to start a school, called “School.” So, Structure comes to constitute School, and School is tax-exempt because it is a school. Now is the property of being tax-exempt borrowed by either Structure or School? No. Each has the property of being tax-exempt, in the given background, independently of the other. Since Structure was tax-exempt before it constituted anything, its being tax-exempt is independent of its constitution-relations to School. And since schools per se are tax-exempt, School’s being tax-exempt is independent of its constitution-relations to Structure. (I’ll leave it to the reader to check the definitions.) So, neither Structure nor School borrows the property of being tax-exempt from the other.

III. Finally, on my view, Piece is a statue, albeit derivatively.<sup>39</sup> *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 borrows the property of being a statue from *David*, and Piece’s being a statue depends wholly on Piece’s constitution-relations to something that is a statue nonderivatively (independently of its constitution relations).<sup>40</sup> Moreover, whereas *David* is a statue essentially, Piece—which might have remained in the quarry and constituted nothing—is a statue contingently. 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* borrows the property of being an *F* from something to which *x* has constitution-relations.

Now let me show how the idea of borrowing properties 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>41</sup> If this is the standard account, then my construal of constitution, à 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 account for that fact in terms of borrowing. The notion of borrowing opens up a distinction between two ways of being an *F*: nonderivatively (as *David* is a statue) or derivatively (as Piece is a statue). 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  $F$  and  $y$  is an  $F$  and  $x \neq y$  and  $x$  is spatially coincident with  $y$ , then there are two spatially coincident  $F$ s.

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

$\therefore$  (C<sub>1</sub>) There are two spatially coincident statues.

(C<sub>1</sub>) follows from a general principle, (P<sub>1</sub>), and an instance of the constitution view, (P<sub>2</sub>), and (C<sub>1</sub>) is indeed an unpalatable conclusion. But the proponent of the constitution view is not committed to (C<sub>1</sub>), for the proponent of the constitution view would reject (P<sub>1</sub>) as begging the question against constitution. If the antecedent of (P<sub>1</sub>) were augmented by the addition of another conjunct (“and neither  $x$  constitutes  $y$  nor  $y$  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, the definition (C) shows that it is—it is hardly effective to argue against it by ignoring it.

The reason that, where *David* is, there are not two spatially coincident statues, is that *Piece* borrows the property of being a statue from *David*. 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>42</sup> (You can’t take them apart and get two statues; you can’t take them apart at all.) Indeed, I want to say that *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>43</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:

(S)  $x$  is the same  $F$  as  $y$  at  $t$   $\text{df}$  ( $x = y$  or  $x$  has constitution relations to  $y$  at  $t$ ) and  $Fxt$ .

(S), I believe, accords with the way that we actually count things.<sup>44</sup> And 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  $x$  borrows being an  $F$  from  $y$ , then  $x$  and  $y$  are the same  $F$ .

Let me respond to those who take it to be intolerable to give up the principle that if  $x$  is an  $F$  and  $y$  is an  $F$  and  $x \neq y$ , then there are two  $F$ s. Constitution is intended as a third alternative between identity and separate existence. How are we to count using this three-way classification? We may count either by identity (“If  $x$  and  $y$  are  $F$ s, then there is one  $F$  only if  $x = y$ ”) or by nonseparateness (“If  $x$  and  $y$  are  $F$ s, 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. In counting, I believe, our practices align constitution with identity: If  $x \neq y$  and if  $x$  and  $y$  are not constitutionally related, then  $x$  is not the same  $F$  as  $y$ . Those who adhere to the principle that I would amend (“If  $x$  is an  $F$  and  $y$  is an  $F$  and  $x \neq y$ , then there are two  $F$ s”) in effect insist on aligning constitution with separate existence: if  $x \neq y$ , then  $x$  is not the same

*F* as *y*. Since I do not think that we count by identity (but rather by nonseparateness), I reject ( $P_1$ ).

However, another philosopher might hold on to ( $P_1$ ); such a philosopher may also endorse constitution, and hence be committed to ( $C_1$ ). In that case, however, she would be in a position to argue that ( $C_1$ ) turns out to be acceptable. For to say that there are two spatially coincident statues in this case would only be to say this: there is one thing that is a statue nonderivatively and whatever constitutes that (nonderivatively) statue borrows the property of being a statue from it. There are not two separate or independent statues. So, a proponent of the constitution view, confronted with the argument whose conclusion is ( $C_1$ ), has two options: Either, with me, reject ( $P_1$ ), or, more conservatively, retain ( $P_1$ ) and argue that ( $C_1$ ) is benign.<sup>45</sup>

The notion of borrowing 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* borrows the property of being white from *Piece*. *David*'s being white derives entirely from the fact that *David* is constituted by something that has the property of being white nonderivatively. Similarly, for (certain) other of *David*'s properties—for example, being located in Florence; being 13 ft., 5 in. high; being made of marble.

There may seem to be another problem with taking *Piece* to be a statue.<sup>46</sup> For 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 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 charge, let me reply. What Jones said is ambiguous, and on one reading what she said was true—albeit misleading. There is something over there—namely, *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 was six years old in 1950. “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  $\exists x(x$  is over there and  $x$  is a husband and  $x$  existed in 1950); but it is false if taken as  $\exists x(x$  is over there and  $x$  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  $\exists x(x$  is over there and  $x$  is a statue and  $x$  existed in 1499); but it is false if taken as  $\exists x(x$  is over there and  $x$  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 borrowed property of being a statue.<sup>47</sup>

There are other arguments for the identity of Piece and *David*. Consider this one:<sup>48</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* does not genuinely have the property of weighing  $n$  kg. In that case, strictly speaking, *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 fact that *David* borrows its weight from the thing that constitutes it 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 fact 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 borrowing also shows why borrowed quantitative properties (e.g., being of a certain saturation, weighing  $m$  kg) cannot be added to their unborrowed sources. The reason that borrowed properties are not “additive” is that *there is nothing to add*: if  $x$  borrows properties from  $y$ , then  $x$  and  $y$  have constitution-relations. If  $x$  and  $y$  have constitution-relations and  $x$  is an  $F$ , then  $x$  is the same  $F$  as  $y$ . 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.

Borrowing walks a fine line. On the one hand, if  $x$  borrows  $H$  from  $y$ , then  $x$  really has  $H$ —piggyback, so to speak. Assuming (as I shall try to show elsewhere)



that 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 borrow the property of bleeding from my body, 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 borrowing it, but also—and this is the other hand—if *x* borrows *H* from *y*, there are not two independent instances of *H*: if *x* borrows *H*, then *x*’s having *H* is entirely a matter of *x*’s having constitution-relations to something that has *H* nonderivatively.

The final worry that the notion of borrowing dissolves is that, on the view of constitution-without-identity, it seems a mystery why the statue and the piece of marble that constitutes it 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 borrowing properties accounts for these otherwise remarkable similarities: the statue borrows its size, weight, color, and smell from the piece of marble that constitutes it; and the piece of marble borrows its astronomical value from the statue that it constitutes. So, the notion of borrowing answers the question, if *x* and *y* are nonidentical, how can 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>49</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>50</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.

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 borrowing accounts for the fact *David* and *Piece* are alike in so many of their properties. In sum, to say that *x* borrows a property *H* from *y* 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

The constitution view has manifold virtues. First, it achieves what contingent-identity theorists want without compromising the classical view of identity (and without using the word “identity” to mean something other than “identity”). Second,

it explains the stability of constituted things: a river is constituted by different aggregates of water molecules at different times. If a river were identical to the aggregate of water molecules that made it up, then you could not step into the same river twice. By contrast, on the constitution view, you can step into the same river twice even if the water molecules that constitute the river the first time you step in it are wholly different from those that constitute it the second time. Third, and relatedly, the constitution view is nonreductive without being antimaterialistic: It 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). Fifth, and perhaps most important, constitution highlights 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., libraries, 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 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>51</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>52</sup>

## NOTES

1. For recent debate, see, for example, David Wiggins in *Sameness and Substance* (Oxford: Basil Blackwell, 1980). Also, see Mark Johnston, “Constitution Is Not Identity,” *Mind* 101 (1992): 89–105. Johnston was responding to the recent work on “contingent identity” by, e.g., David Lewis, “Counterparts and Their Bodies,” *Journal of Philosophy* 68 (1971): 203–11; Allan Gibbard, “Contingent Identity,” *Journal of Philosophical Logic* 4 (1975): 187–221; Anil Gupta, *The Logic of Common Nouns* (New Haven, CT: Yale University Press, 1980); and Denis Robinson, “Re-Identifying Matter,” *Philosophical Review* 81 (1982): 317–42.

2. For an excellent collection of articles espousing different answers to the question, see *Material Constitution: A Reader*, Michael Rea, ed. (Lanham, MD: Rowman & Littlefield, 1997).

3. Other philosophers—among them, John Locke in *Essay Concerning Human Understanding*, A. S. Pringle-Pattison, ed. (Oxford: Clarendon Press, 1924), and Sydney Shoemaker in *Identity, Cause and Mind* (Cambridge: Cambridge University Press, 1986)—have proposed that persons and bodies are related in a way similar to what I am calling “constitution.” I see as kindred spirits all who construe the relation as a kind of composition without identity.

4. Michael B. Burke, “Copper Statues and Pieces of Copper: A Challenge to the Standard Account,” *Analysis* 52 (1992): 12–17.

5. It is essential to the plausibility of the standard account, according to Burke, that Copper is not a statue. For if Copper were a statue, then Statue would be coextensive with *another* statue. As I shall show, my view does not have this consequence.

6. Stephen Yablo makes this point about what he calls “contingent identity,” according to which things are “distinct *by nature*, but the same *in the circumstances*” (296). See his “Identity, Essence, and Indiscernibility,” *Journal of Philosophy* 84 (1987): 293–314. Many who use the term “contingent identity” do distinguish that relation from genuine identity, which is construed (rightly, I think) as a necessary relation. I think that it is misleading to insist that “contingent identity” names a relation that is not identity.

7. 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*, Vol. 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,” *Journal of Philosophy* 80 (1983): 201–20.

8. I do not begin with the idea of metaphysical simples and ask under what conditions do simples constitute or compose something complex. That question is much more abstract than the one that concerns me. (For an exploration of that question, see Peter van Inwagen, *Material Beings* [Ithaca, NY: Cornell University Press, 1990].) Assuming the existence of ordinary things, my goal is to understand the relation between, say, a statue and the piece of marble that makes it up. To insist that I should first answer the abstract question about the conditions under which metaphysical simples compose something complex would be like insisting that a biologist should prove the existence of the external world before studying organisms.

9. Some philosophers (e.g., Judith Jarvis Thomson in correspondence) may agree with me about the nonidentity of an artifact with, say, a hunk of metal, though disagreeing about the nonidentity of a person and her body. Here I am only trying to work out the general idea of constitution. One can endorse this account without endorsing its range of application. I explicitly apply the constitution view to persons and bodies elsewhere.

10. 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,” in which 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.

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 at hand, it is useful to name the piece of marble; but I recognize that this is not what we ordinarily do.

11. According to Robert C. Sleigh, Jr., Leibniz meant his “law” to be understood like this: “if individual  $x$  is distinct from individual  $y$  then there is some intrinsic, non-relational property  $F$  that  $x$  has and  $y$  lacks, or vice versa” (“Identity of Indiscernibles,” in *A Companion to Metaphysics*, Jaegwon Kim and Ernest Sosa, eds. [Oxford: Blackwell, 1995]: 234). I am not claiming that there is any *intrinsic, nonrelational* property  $F$  that *David* has but *Piece* lacks, or vice versa. I am claiming, rather, that *being a statue* is an essential property of *David*, but not of *Piece*—even though *being a statue* is a relational property, inasmuch as whether or not something is a statue depends on its relation to an artworld or to an artist. I depart from the tradition in holding that not all essential properties are intrinsic.

12. This consideration leads straight to a counterexample to the conviction that “if  $y$  is a paradigm  $F$  and  $x$  is intrinsically exactly like  $y$ , then  $x$  is an  $F$ .” Using sophisticated metaphysical arguments, Mark Johnston aims to undermine this principle in “Constitution Is Not Identity”; Harold Noonan aims to rebut Johnston in “Constitution Is Identity,” *Mind* 102 (1993): 133–46. I think that the principle is undermined merely by considering statues, without any fancy arguments: Suppose that something—call it “ $a$ ”—with a microstructure exactly like *David*’s spontaneously

coalesced in outer space, light-years from any comparable mass. Now *David* is a paradigmatic statue and *a* is intrinsically exactly like *David*; but *a* is not a statue.

13. "Why Constitution Is Not Identity."

14. Cf. Ruth Barcan Marcus, "Modalities and Intensional Languages," in *Modalities: Philosophical Essays* (New York: Oxford University Press, 1993): 3–23, first published in *Synthese* 13 (1961): 303–22. So I don't take what is called "contingent identity" to be identity; and I'm unsure whether what is called "relative identity" is coherent. In any case, I am not committed to relative identity. For a defense of relative identity, see Peter Geach, "Identity," in *Logic Matters* (Oxford: Basil Blackwell, 1972): 238–49. For criticisms of relative identity, see John Perry, "The Same *F*," *Philosophical Review* 79 (1970): 181–200, and David Wiggins, *Sameness and Substance* (Oxford: Basil Blackwell, 1980).

15. Saul A. Kripke, "Identity and Necessity," in *Identity and Individuation*, Milton K. Munitz, ed. (New York: New York University, 1971): 137. Kripke continues: "And this is so even if the property *F* is itself of the form of necessarily having some other property *G*, in particular that of necessarily being identical to a certain object."

16. My commitment to the necessity of identity as a relation between objects does not imply that I have to deny either the truth or the contingency of statements of the form "the *F* is the *G*."

17. Constitution, as I am construing it, differs in important ways from Dean W. Zimmerman's construal in "Theories of Masses and Problems of Constitution," *Philosophical Review* 104 (1995): 53–110. Zimmerman takes the relation of constitution to be masses of kinds of stuff. He also permits *x* and *y* to constitute one another (74), whereas I require asymmetry. In any case, Zimmerman finds the alleged differences between coincidents ungrounded, and concludes that "coincident physical objects are not to be countenanced" (90). I believe that my account of borrowing, together with my rejection of the thesis that all essential properties are intrinsic, dissolves the difficulties that Zimmerman sees.

18. I agree with the Kripkean point that the lectern could not have been constituted by a block of ice, but not for the Kripkean reason that a thing's origins are essential properties of the thing. It is not because the lectern had a non-ice origin that it cannot be constituted by a block of ice, but because nothing constituted by a block of ice could serve the purposes of a lectern.

19. I shall discuss the temporal complications later.

20. In "The Statue and the Clay" (*Nous*, forthcoming), 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. Suppose that I have a cotton dress, and suppose that it is constituted at  $t_1$  by a certain portion of cotton,  $P_1$ . 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,  $P_1$  no longer exists at  $t_2$ . In that case, my dress is constituted at  $t_2$  by a different portion of cotton,  $P_2$ . On the contrary, I have a strong intuition(!) that my dress is constituted by the same thing at  $t_1$  and at  $t_2$ . 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. So, appeal to pieces (and other *F*s that constitute things) is not, I think, susceptible to the charge of duplication.

21. Thus, constitution must be sharply distinguished from supervenience. 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).

22. For an interesting discussion of stuff and things, see Vere Chappell, "Matter," *Journal of Philosophy* 70 (1973): 679–96.

23. In many cases (though not, perhaps, in *David's* case), the converse also holds:  $y$  constitutes  $x$  and  $x$  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 Kripke's *Naming and Necessity* (Cambridge: Harvard University Press, 1980).

24. This is a different use of "intentional object" from its traditional use, in which it denotes "nonexistent" objects like Pegasus and Santa Claus.

25. As we shall see when I discuss "borrowing properties," 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.

26. At least, this is the view of Ruth Millikan.

27. The reason for the locution "at any particular place or time" is that perhaps the existence of an art world is required for something to be an artwork. The existence of an art world 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.

28. The reason to distinguish  $F^*$  and  $G^*$  from  $F$  and  $G$  is that some  $x$  may have the property of being an  $F$  by borrowing, in which case  $x$  is an  $F$  but being an  $F$  is not  $x$ 's primary-kind property.

29. This counterexample to an earlier definition was proposed by Anil K. Gupta.

30. 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  $\exists z_1, \dots, z_n$ [ $y$  constitutes  $z_1$  and  $z_1$  constitutes  $z_2$  and  $\dots$  and  $z_n$  constitutes  $x$ ] or  $x$  constitutes  $y$  or  $\exists z_1, \dots, z_m$ [ $x$  constitutes  $z_1$  and  $z_1$  constitutes  $z_2$  and  $\dots$  and  $z_m$  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.

31. Thus, I dissent from those who take statues to be determined by shape (e.g., "statuesque").

32. 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.

33. Gibbard, "Contingent Identity," 191.

34. 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.

35. E.g., with respect to nonessential properties that are such that they may not be rooted outside the times at which they are had (as defined by Chisholm), Chisholm thinks that ordinary things (like tables) borrow such properties from what constitutes them, and not vice versa. See Roderick Chisholm, *Person and Object: A Study in Metaphysics* (LaSalle, IL: Open Court Publishing, 1976): 100–101. The counterexamples that I give to the bottom-up-borrowing-only claim in the text all concern nonessential properties, and all conform to Chisholm's definition of properties that are such that they may not be rooted outside the times at which they are had. So, I think that they are counterexamples to Chisholm's view. For a detailed discussion, see my "Persons in Metaphysical Perspective" in *The Philosophy of Roderick M. Chisholm* (Library of Living Philosophers, Vol. 25) (LaSalle, IL: Open Court Publishing, 1997): 433–53.

36. And, intuitively, being worth \$10,000 at  $t$  is a nonessential, present-rooted property of the *ens successivum*. It is surely not essential to the statue that it be worth \$10,000 (the market could

change any day, and the statue would survive); and being worth \$10,000 is a present-rooted property: “ $x$  is worth \$10,000 at  $t$ ” is roughly equivalent to “If you tried to sell  $x$  at  $t$ , you’d get \$10,000.”

37. The definition is Chisholm’s. See *Person and Object*, 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.”

38. 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.

39. 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  $a$  has the property of being a statue, where  $a$  has that property either nonderivatively (without borrowing) or derivatively (by borrowing). For any sortal,  $F$ , if  $x$  is an  $F$  at  $t$ , then  $\exists y$ ( $y$  is an  $F$  at  $t$  nonderivatively and either  $x = y$  or  $x$  is constitutionally related to  $y$  at  $t$ ).

40. None of the following properties is ever borrowed: the property of being identical to a statue, the property of constituting a statue, the property of being constituted by a statue. Necessarily, if  $x$  has constitution-relations to  $y$ , and  $x$  has one of these properties, then  $y$  does not have it.

41. Burke, “Copper Statues and Pieces of Copper,” 14.

42. 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.

43. John Perry, “The Same  $F$ .” Notice that my construal no more invokes relative identity than does Perry’s.

44. 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,” 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 and Los Angeles: University of California Press, 1976): 26–28.

45. This conservative option was urged on me by Hugh Benson, Monte Cook, and Ray Elugardo.

46. This was brought to my attention by Anil Gupta.

47. 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.

48. Alvin Plantinga proposed a version of this argument.

49. Burke, “Copper Statues and Pieces of Copper,” 14. 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.”

50. I have extended discussions of this point in “Why Constitution Is Not Identity.”

51. E.g., see Peter Unger, “There Are No Ordinary Things,” *Synthese* 71 (1979): 117–54; and van Inwagen, *Material Beings*.

52. I am indebted to Albert Visser, Anil Gupta, Robert Hanna, Judith Jarvis Thomson, and Amie Thomasson, and to my seminar on Person and Body at the University of Massachusetts at Amherst in the fall term, 1997.

