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CRITICAL NOTICE

THE ONTOLOGY OF MATERIAL OBJECTS

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I

For a long time philosophers thought material objects were unproblematic. Or nearly so. There may have been a problem about what a material object is: a substance, a bundle of tropes, a compound of substratum and universals, a collection of sense-data, or what have you. But once that was settled there were supposed to be no further metaphysical problems about material objects. This illusion has now largely been dispelled. No one can get a Ph.D. in philosophy nowadays without encountering the puzzles of the ship of Theseus, the statue and the lump, the cat and its tail complement', amoebic fission, and others. These problems are especially pressing on the assumption that we ourselves are material objects.

The puzzles have to do in part with what material objects there are. Which matter-filled regions of the world contain material things, and which don't? Is there something made up of your upper half and my lower half, for instance a scattered object whose mass is something between my mass and yours? Come to that, is there such a thing as your upper half? What we say about the puzzles involving ships, statues, cats, and amoebas—not to mention ourselves—will depend largely on how we answer this question.

The most common answer is that material objects are abundant. Every matter-filled region of space, or spacetime, contains at least one. We simply ignore most of them for practical purposes. Many philosophers assert this without argument, as if it were completely obvious. Others take it for granted without mentioning it, as if there were no alternative. A few go to the other extreme, and say that material objects are sparse. Most notably, Peter van Inwagen argues that the only material objects are elementary particles and organisms.

It is hard to find a serious defence of what we might call folk ontology: the view that there are dogs and tables and planets and all the other material objects that we have names for (more or less), but no arbitrary, gerrymandered objects. It isn't hard to see why. There seems to be nothing common to all and only those regions that folk ontology says are occupied by material objects. (Apart from the fact that we think of them in that way, of course; but that could hardly account for the ontological difference.)

In Objects and Persons, Trenton Merricks defends a view close to van Inwagen's, though his arguments are very different. The only material objects, he says, are those with non-redundant causal power—those that cause things not caused by their parts. There are human organisms, which is what Merricks says we are (though why he thinks so is unclear). There are also microscopic particles—atoms for short—which such larger things are made of. Whether there are any other material objects is uncertain. In any case there are no ships or statues or lumps of clay or arbitrary undetached parts of cats. Merricks calls his view eliminativism.

II

Like folk ontology, eliminativism claims that not just any atoms make up a larger object. Atoms can be arranged statuewise' without thereby composing a statue. That is, they can be arranged in such a way that they would compose a statue if there were any statues, even though there are none. That is what leads us to believe that there are statues, and what makes that belief as good as true for ordinary purposes. Though it may be strictly false, it is not false in the way that the belief that there are unicorns is false, for there are no atoms arranged unicornwise.

Many philosophers claim to find this sort of view unintelligible or self-contradictory. The statue is nothing over and above the atoms arranged statuewise. So what can it mean to say that the atoms exist but not the statue? Surely the dispute between abundant and sparse ontologies of material objects is merely verbal.'

I don't think anyone who has read Merricks's opening chapter can endorse this objection as it stands. The charge might be that the statue is identical with the atoms, making eliminativism like the claim that Cicero exists but Tully doesn't. But one thing can't be numerically identical with many things. Does the claim that there are statues mean simply that there are atoms arranged statuewise? Some ordinary claims may be like that: to say that there is a forest on the hillside is perhaps just to say that trees grow densely there. Merricks's question, though, is whether the atoms or the trees compose anything: whether there is any larger object that has the atoms or trees as parts. And you can't get from the claim that there are certain atoms to the claim that there is something other than an atom without a substantive metaphysical principle: the principle that for any objects whatever there is a larger object that they compose, for instance. Which such principle is correct is just the point at issue. Likewise, the claim that atoms arranged statuewise compose statues and the claim that they don't appear to be as contradictory as, say, theism and atheism. Anyone who insists that the dispute is merely verbal needs to explain how these claims can be consistent.

Others find the view incredible. Can't we see that there are statues? But the existence of atoms arranged statuewise appears to explain our visual experiences as well as the existence of statues would.

III

Eliminativism may be an intelligible view. But why should anyone believe it? For one thing it provides an elegant solution to all philosophical problems about ships, statues, amoebas, and most other material objects. There are simply no such things for there to be problems about. Eliminativism solves those problems in the way that atheism solves the problem of evil. (This fact should dispel any lingering doubts about the substantive content of eliminativism.)

But the centrepiece of Objects and Persons is an explicit argument for the claim that most of the objects of folk ontology are unreal. They cannot exist, Merricks claims, because they would be causally redundant. Suppose I throw a rock through a window. One thing is clear: the atoms arranged rockwise, by virtue of their momentum, collectively cause the window to break. To deny that would be to deny that atoms do anything. Could the rock be another cause of the window's breaking? Merricks says no. At any rate there is a strong reason to think not. The rock is not a partial cause, along with the atoms, of the window's breaking. The atoms don't cause the rock to break the window; nor does the rock cause the atoms to break it. And of course the rock is not identical with the atoms. So if the rock also broke the window, there would be causal overdetermination. And we ought to deny that there is causal overdetermination unless there is a good reason to think otherwise. The folk-ontological belief in the existence of rocks, Merricks says, is not such a reason.

So the rock doesn't break the window. And if rocks don't break windows, they don't do anything. But rocks couldn't be causally inert. So there are no rocks. And what goes for rocks goes equally for ships, statues, and presumably all other inanimate macroscopic objects.

Now this reasoning call it the overdetermination argument threatens to eliminate all composite objects. If rocks cause only what their atoms cause, it would seem that anything with parts causes only what its parts cause. And if a thing's causing what its parts cause is objectionable overdetermination, then the only causally active things will be simple things without proper parts. This applies not only to material objects, but to events, facts, tropes, and anything else that might participate in causal relations. It even threatens to eliminate us unless we are simples. And what if there are no simples?

It also threatens mental causation. Suppose you cause a physical event by virtue of having some mental property. That physical event also has many microphysical causes: the activities of certain atoms. And some of those micro-events will, together, have the same effects as the supposed mental cause. Assuming some sort of token physicalism, this would be causal overdetermination of the same sort as we should have if both the rock and its atoms broke the window. And we can't solve the problem by identifying the mental cause with the activities of the atoms, for, again, one thing cannot be identical with many things. So what goes for rocks appears to go for mental causes as well. (The book also includes an interesting chapter about how eliminativism bears on the issue of free will.)

But not even an eliminativist will want to deny his own existence, or concede that our beliefs and desires have no affect on our behaviour. You might expect Merricks to reply that since these claims are incredible, we ought to accept causal overdetermination in our own case, though not in the case of rocks. Or he might resort to substance dualism. Instead, he makes the surprising claim that when we cause things by virtue of having mental properties, there is no overdetermination. We cause things that our atoms don't cause.

Merricks's argument here (Chapter 4) is complex, and I have not fully understood it. I will attempt a brief sketch, though. With any luck it will resemble the real thing enough to be useful.

IV

Suppose I deliberately break a window. That breaking is of course caused by atoms. But only by atoms that cause me to break the window (if there are such), and atoms that I cause to break it. Somewhere in the causal chain leading up to the window's breaking, Merricks says, the microphysical causes leave a gap. That gap is filled by something which, though physical, is not microphysical. It is something that I do but no atoms do. A microphysical event occurs that would not have occurred had those atoms not composed a human being with mental properties. So I do things that are not overdetermined in any objectionable way by what my atoms do. I have non-redundant causal powers. Thus, the overdetermination argument does not apply to me or my mental properties.

This is an interesting suggestion. Is there any reason to believe it? Merricks argues that there is no reason not to believe it. Suppose for the sake of argument that I exist. Then presumably I cause things by virtue of having mental properties, such as being conscious. Now if any atoms cause what I do in a way that would make me causally redundant, they will be the atoms that make it the case that I exist and am conscious. At any rate there is no reason to suppose that any other atoms cause what I do. But no atoms make it the case that I exist and am conscious. No facts about atoms entail or even reliably cause it to be the case that I or any other conscious being exists. So there is no reason to suppose that everything I cause is caused by atoms in a

way that would make my contribution redundant.

Why don't the atomic facts make it the case that I and other conscious human beings exist? How could they fail to do so, given that human beings are made up entirely of atoms? Merricks argues that atoms just like mine could be arranged just as mine are arranged and yet not compose a conscious being. There could be a human being exactly like me, down to the last atom, except that he has one atom more than I have. Then all of his atoms save the extra one would be exactly like my atoms in their intrinsic properties and arrangement. Yet those atoms would not compose a conscious being. If they did, there would be two conscious beings there, sharing the same thoughts. Far more than two, in fact, for there is nothing special about that extra atom. Every proper subset of his atoms that differs from the set that composes him only by leaving one out would compose a numerically different conscious being. The same would go for the rest of us: each of us would share our thoughts with an astronomical number of conscious beings just like ourselves but one atom smaller. That, Merricks says, is absurd. Thus, the intrinsic properties of and relations among the atoms that make me up are not sufficient, either logically or causally, for me or any other conscious being to exist.

Merricks goes on to argue that if the nature and arrangement of my atoms isn't enough to get them to compose a conscious being, no facts about any atoms suffice for a conscious being to exist. There are entire worlds identical at the atomic level, but which differ as to the existence of conscious beings composed of atoms.

So if there are conscious beings, their existence and consciousness is not determined by any facts about atoms. That suggests that whatever we cause by virtue of being conscious is not caused by any facts about atoms. That is a reason to suppose that we have non-redundant causal powers, and hence that we exist even though rocks and statues don't. We might call this the independence argument, as it claims that conscious beings are in an important way independent of their parts.

V

The independence argument is nothing if not audacious. Its implications make eliminativism look tame.

Atoms arranged rockwise do everything we thought rocks do. But atoms arranged anthropomorphically, the argument tells us, don't do everything we thought human beings do, even though human beings are composed entirely of atoms. Your atoms could do everything you do, but they don't. They could do it because they could be arranged just as they are without composing a conscious being. Indeed atoms could be arranged just as yours are throughout your lifetime, in identical atomic surroundings, without ever composing a conscious being. Otherwise the arrangement of your atoms and those of your surroundings throughout your life would make it the case that you (or at any rate someone like you) exist and are conscious, contrary to the independence argument.

So your atoms could do everything you do without any difference in the nature and arrangement of those atoms or any other atoms. Why don't they, then? Why don't our atoms cause our books and reviews to be written? Well, because we do. But why is that? Why do our atoms compose conscious beings? Not because of any facts about atoms. Merricks's view, apparently, is that there is no explanation.

No amount of arranging atoms would suffice for any of them to compose conscious beings. How would you create material conscious beings, then? (Imagine that you are an immaterial being with unlimited powers to create and arrange atoms, where this includes fixing the

geometry of spacetime and the laws of nature.) Arrange the atoms appropriately and hope for the best? Or is there something you could do to atoms other than fixing their intrinsic states and their causal and spatiotemporal interrelations and their surroundings that would get them to compose conscious beings? But what could that be?

Suppose you somehow did get atoms to compose a conscious being. How would you know that you had succeeded? Well, conscious beings are supposed to have causal powers that their atoms collectively lack. So if the atoms compose a conscious being, you might expect them to give the appearance of walking, talking, and writing books, whereas atoms arranged anthropomorphically that don't compose a conscious being would give the appearance of lying about like a vegetable. But that is not Merricks's view. No facts about atoms are supposed to make it the case that any atoms compose conscious beings. There are worlds with conscious human beings and other worlds, atomically just like them throughout their histories, that never contain conscious beings. For all you could ever know, then, your world might be one of the second kind.

The worry is not merely theoretical. If atoms arranged just like mine in identical atomic surroundings could fail to compose a conscious being, you ought to wonder whether they do compose one. It ought to be a real epistemic possibility that some of the atoms arranged anthropomorphically in the real world compose conscious beings and others don't. For all you know, this review has no author. Some of your best friends may not exist.

Of course, Merricks's view is not alone in this respect. Epiphenomenalism about the mental and non-interactionist dualism are no better off. But that doesn't make it any easier to believe.

VI

The independence argument has already been critically discussed. Rather than add to this complex debate, I will venture a remark about the source of the trouble that the independence argument is meant to avoid: the overdetermination argument.

It says, in effect, that a thing cannot do what its parts do; and since the atoms of a rock (for instance) do whatever the rock would do if there were a rock, they don't compose a rock. The crucial premise call it Merricks's overdetermination principle is roughly this: if some things, the x s, cause an event, then we shouldn't suppose without a good reason that anything else, y , causes that event unless y and the x s cause it jointly, or the x s cause it by causing y to cause it, or y causes it by causing the x s to cause it. This is meant to capture the intuitive idea that an event cannot have two sufficient but independent causes. If two marksmen simultaneously fire bullets through a man's heart, neither causes his death. At any rate neither causes it in the way that a lone assassin might. Most philosophers agree that we need some sort of overdetermination principle. But getting it right is a tricky business. Part of the question is when causes count as independent' in the relevant sense. Merricks's argument shows how much hangs on this.

What sort of overdetermination principle is the right one is presumably bound up with the nature of causation in general. So it would seem natural to proceed by asking what sort of principle fits with the best overall account of causation. Surprisingly, Merricks never discusses causation in general, and offers no theoretical support for his crucial principle. I think we ought to be suspicious.

Consider the idea that to cause something is to raise the chance of its occurring. That is, x causes y just in the case that the chance x gives y of occurring in the circumstances is greater than the chance of y 's occurring without x (where a chance is a propensity', an objective

physical property). Call this the chance-raising view of causation. Of course it is only the barest outline of a theory. But if it is respectable, it is enough to show that there are plausible alternatives to Merricks's overdetermination principle.

Suppose an earthquake causes two avalanches that simultaneously hit a shed, which is destroyed. And suppose the earthquake makes both avalanches inevitable. In the circumstances, the chance of the shed's destruction without the first avalanche is near zero. That is because, due to their common cause, had the first avalanche not occurred the second would probably not have occurred either. The chance of the shed's destruction with the first avalanche, on the other hand, is near one. So the chance-raising view implies that the first avalanche causes the shed's destruction. Likewise for the second avalanche. This may be overdetermination; but on the chance-raising view it is unobjectionable. Merricks's principle, by contrast, implies that (absent a good reason to think otherwise) at most one of the avalanches causes the shed's destruction, for they don't cause that event jointly, and neither causes it by causing the other to cause it.

Here is a case of overdetermination that the chance-raising view does rule out. Suppose there is a gas explosion in the shed at the same time as an avalanche hits it, that either event would suffice to destroy the shed in the absence of the other, and that they have no common cause. It is a complete accident that they happen at the same time. Then in the circumstances the chance the explosion gives the shed's destruction is one. Owing to the avalanche, however, the chance of the shed's destruction without the explosion is also one. Likewise, owing to the explosion the chance of the shed's destruction is the same with and without the avalanche. Thus, neither event raises the chances of the shed's destruction, and so on the chance-raising view neither causes it.

More to the point, the chance-raising view does not prevent a composite object from causing what its parts cause. The rock and its atoms are like the two avalanches and not like the avalanche and the explosion. Suppose for the sake of argument that there are rocks. A rock hits a window, which breaks. Suppose the rock's momentum and the window's strength make the breaking inevitable. Then the chance the rock gives the window's breaking is one. The chance of the window's breaking without the rock's hitting it, though, is in the circumstances near zero. For if the rock hadn't hit the window, its atoms would not have hit it either. Likewise, the chance of the window's breaking with the atoms' hitting it is greater than the chance of its breaking without their hitting it. So the chance-raising view implies that both the rock and the atoms cause the window to break.

I don't want to defend the chance-raising view to my last breath. But it looks to me about as good as any other view of causation. It appears to give fairly plausible verdicts in cases of apparent overdetermination, including mental causation. And it provides a principled reason for rejecting Merricks's overdetermination principle and the argument he builds on it. Since Merricks gives no real support for that principle, and since it is far from obvious, his argument appears to have feet of clay.

VII

Objects and Persons is likely to have more admirers than followers. And there is much to admire. It presents a metaphysical vision of great power and originality. It is marvellously subversive, threatening comfortable assumptions at every turn. It is brilliantly argued. Above all, the book shows how much thinking there is to be done about the ontology of material objects. There can no longer be any doubt about its place as a central topic in philosophy.

