

# What's So Bad about Overdetermination?\*

THEODORE SIDER

*Philosophy and Phenomenological Research* 67 (2003): 719-726

In many cases it is natural to speak of an effect E as being caused by *each* of two intimately related entities:

<u>Cause X</u>	<u>Cause Y</u>
A physical property	A mental (biological, social, economic) property
A physical event	A mental (biological, social, economic) event
Some micro-objects <sup>1</sup>	A macro-object composed of those objects
Some micro-events	A macro-event composed of those events
An object	An event involving that object
An object	A fact involving that object
A fact	A corresponding event

The intimate relationship between X and Y consists in the existence of (metaphysically) necessary truths correlating their occurrences/existences/instantiations.

E would be in some sense “overdetermined” if caused by both X and Y.<sup>2</sup> Some philosophers say this would be bad, that this cannot or does not happen, that we should construct theories ruling it out, at least in certain cases.<sup>3</sup> But why? Given the necessary truths correlating objects and their parts, objects and events concerning those objects, physical and supervenient mental properties, and so on, X and Y *do* both seem to be causes of E. Should we say that *a baseball* caused a certain window to shatter? Or that *the parts of the ball* caused the window to shatter? Or that *the event of the ball's striking the window* caused the window to shatter? Or that *the fact that the ball struck the window* caused the

---

\*Thanks to Karen Bennett, Eric Funkhouser, Brian McLaughlin, Trenton Merricks, Jonathan Schaffer and Dean Zimmerman for comments.

<sup>2</sup>‘Overdetermination’ is sometimes used as a pejorative term, to stand only for an allegedly objectionable sort of dual causation. I prefer to concede that the cases in question involve “overdetermination”, and fight over whether that would be bad. This is Merricks’s strategy as well, although he does terminologically exclude *some* cases with two or more numerically distinct causes, e.g., the causation of E by both X and a cause of X. Merricks’s use of ‘overdetermine’ (and related terms like ‘independent’) seems different from standard usage in the philosophy of mind. While it is not perfectly clear just what Kim means by ‘overdetermination’ (e.g., Kim (1989, 280-281)), I doubt that causation by both an object and its parts counts.

<sup>3</sup>Even Stephen Yablo (2002), who says it is *not* bad in certain cases, accepts the force of the complaint and attempts to delineate acceptable exceptions to the general rule.

window to shatter? Or something else? One wants to say *all* of these things! That is certainly the natural view. What is supposed to be the problem with overdetermination?

In his excellent new book *Objects and Persons*, Trenton Merricks claims that no non-living macroscopic physical objects exist. There exist no mountains or oceans, no tables or chairs, no baseballs or windows. While similar theses have been defended by others<sup>4</sup>, Merricks's defense is novel and important. What is new is a focus on causation and overdetermination. The main argument is, in short, that if baseballs or other non-living macro-objects existed, they would overdetermine their effects (for example shatterings of windows) since those effects would also be caused by their microscopic parts; those effects are *not* overdetermined; therefore non-living macro-entities do not exist.

Merricks's argument is reminiscent of the exclusion problem in contemporary philosophy of mind, in which it is argued that mental properties must be either eliminated or reduced to physical properties, since otherwise certain effects of physical properties would be overdetermined.<sup>5</sup> Most philosophers of mind will, I expect, be horrified at Merricks's use of this style of argument, but this reaction is indefensible. Merricks's argument is a natural development of the rejection of overdetermination<sup>6</sup>, no less powerful than the more familiar exclusion argument.<sup>7</sup> Defenders of the exclusion argument may protest that *this* kind of "overdetermination" — causation by both an object and its parts — is unproblematic. But why this exception to the rule, Merricks asks (66-72)? I am sympathetic: if there really were a general problem with overdetermination then exceptions would be hard to justify.<sup>8</sup> Those unwilling to follow argument where it leads should reconsider their hostility to overdetermination.

What is the problem with overdetermination? Why not say that both a baseball and its constituent atoms cause the shattering of a window? Why not say that both a mental event (or an object having a mental property) and a physical event (or an object having a physical property) cause the lifting of a

---

<sup>4</sup>Most notably Peter van Inwagen (1990).

<sup>5</sup>See Kim (1989, 1993*b,a*).

<sup>6</sup>In fact, I think Merricks does not take the argument far enough. Merricks accepts both living things and events. But if objects and their parts would objectionably overdetermine effects, so would an object and an event that involves it. Merricks says in response that object-causation is importantly different from event-causation, but why should that matter? See pp. 67-70.

<sup>7</sup>Although see note . Merricks himself rejects the usual exclusion argument (138-146).

<sup>8</sup>If the complaint about overdetermination were clarified then exceptions might be justified. See the three objections to overdetermination distinguished below.

finger? According to Merricks, overdetermination would be “ugly” (67) and “objectionable” (71). Jaegwon Kim says that “It is at best extremely odd to think that each and every bit of action we perform is overdetermined in virtue of having two distinct sufficient causes” (1993*a*, 247), and that there is no “causal work left over” for mental properties if they are distinct from and irreducible to physical properties (1993*b*, 354). But what do these complaints amount to? I distinguish three possible objections to overdetermination: that overdetermination is metaphysically incoherent, that it would be a “coincidence”, and that it would undermine our reason for believing in some of the entities involved. Sometimes there is a fourth, phantom complaint that theories allowing overdetermination are bad in some unspecified sense. But this complaint is useless until the source of the badness is specified.

**Metaphysical objection:** *overdetermination is metaphysically incoherent.* Here is a picture. Causation is a kind of fluid divided among the potential causes of an effect. If one potential cause acts to produce an effect, that fluid is *used up*, and no other potential cause can act. Atoms causing the shattering of a window would use up the available causal fluid, leaving none for the baseball composed of those atoms.

This, of course, is a bad picture. It takes seriously a view of causation that no one accepts. But barring appeal to such a picture, what could be metaphysically wrong with overdetermination?

One might argue that overdetermination is impossible because it is precluded by the correct theory of the nature of causation. But none of the commonly defended theories of causation (counterfactual analyses, covering law analyses, probability-raising analyses, primitivist analyses) stand in the way of the sort of overdetermination under discussion. The shattering of the window is counterfactually dependent on both the atoms and on the baseball; the sequence from either the atoms or the baseball to the shattering can be subsumed under covering laws; both the actions of the baseball and its parts raise the probability of the shattering; a primitive causal relation could hold in a many-one pattern. An effect can depend counterfactually on both the instantiation of mental and of physical properties, can be subsumed under both purely physical laws and psychophysical laws, can have its probability raised by the instantiation both of mental properties and of physical properties, and can be related by a primitive causal relation to both a mental and a physical cause.

One might argue instead that any acceptable theory of causation *ought* to

preclude the relevant sort of overdetermination. (All currently popular theories would stand refuted, just like that!) But this is not a plausible constraint on acceptable theories of causation. It certainly does not *seem* wrong to say both that baseballs and baseball parts cause window shatterings, or that human actions have both physical and mental causes.

Worries about epiphenomenalism are in part what drives the exclusion argument in the philosophy of mind. How do we distinguish cases with two genuine causes (e.g., an effect's production by both mental and physical causes) from cases of epiphenomena (e.g., a sung note's pitch, but not the word that is sung, causes the glass to shatter<sup>9</sup>)? There are, one must admit, analogies between these cases, and it is no trivial philosophical enterprise to say exactly what distinguishes them. But setbacks or even failure at this task in philosophical analysis should not persuade us that there is no distinction to be made, since failure at philosophical analysis should *never* persuade anyone, on its own anyway, that there is no distinction to be made. Exclusion worries often begin with the rhetorical question "Why don't mental events count as mere epiphenomena?". The question is perfectly reasonable as an invitation to join the (worthy) project of analyzing the difference between causation and epiphenomena, but it all too easily mutates into an inappropriate demand: produce an analysis showing that mental events are indeed causes, Or Else. (If anything, the burden to produce an analysis is on the objector to mental causation; otherwise the claim that mental events would be mere epiphenomena looks entirely unjustified.)

**Coincidence objection:** *systematic overdetermination would be a coincidence.* Imagine a paranoid who thinks that every time someone is shot, there are in fact two causally independent shooters. He is crazy, but why? One reason (not the only one) is that it would be a great *coincidence* that all these sharpshooters just happen to fire at the same places at the same times. This great regularity would need an explanation, and none could be given. Likewise, it may be claimed, widespread overdetermination by objects and their parts, or by mental and physical causes, would require a massive, unexplained correlation between the multiple causes. (That the overdetermination is widespread is crucial, for coincidences do *sometimes* happen; sometimes there really are two shooters.)

But this is all wrong: it is no coincidence that baseballs and their parts, or mental and physical events, are correlated, given the necessary<sup>10</sup> truths gov-

---

<sup>9</sup>Dretske (1989, 1).

<sup>10</sup>The necessity need not be as strong as "metaphysical" to rebut the charge of coincidence.

erning these correlations. It is necessary that appropriately arranged atoms compose a baseball, and that physical properties instantiated in appropriate circumstances result in the instantiation of an appropriate supervenient mental property. Some might be skeptical of these necessary truths. But modal skepticism seems remote from the concerns of the opponents of overdetermination. Merricks expresses no such skepticism.<sup>11</sup>

**Epistemic objection:** *we have no reason to believe in overdetermining entities.* Return to our ubiquitous second sharpshooters. It was objected that their coordination would be an unexplained coincidence. Another thing wrong with their postulation is that it would be gratuitous. Postulating a single sharpshooter typically suffices to explain a shooting. Postulating a second would be unjustified, offending against Ockham's Razor. Likewise, it may be said, we have no reason to posit baseballs since their effects (e.g., shatterings of windows, perceptual sensations in sentient beings) are already accounted for by positing their atomic parts. Thus, baseballs are epistemically redundant. Parsimony dictates their elimination.

Merricks explicitly discusses this epistemic objection, and it is an important part of his complaint about overdetermination. But he often seems to have something else in mind, a phantom something that is positively *wrong* with overdetermination:

- “We always have a reason to resist systematic and genuine overdetermination” (72).
- The presentation of his main argument (chapter 3) reads as if the rejection of overdetermination is a legitimate *starting point*. He states the rejection assuming its appeal is obvious, then plays defense, fending off possible objections.
- “I concluded that [the rejection of overdetermination is correct] even before developing the point that, because baseballs would be at best

---

<sup>11</sup>In the mind-body case, one might claim that the necessary truths guaranteeing the existence of psychological and psycho-physical laws as a consequence of physical laws and initial conditions stand in need of explanation. If mental properties really are irreducible to physical properties then why should there be any interesting patterns at the level of the mental at all? But there are interesting patterns. See Funkhouser (2002). It is unclear to me how much force this version of the exclusion argument has. At any rate, it apparently does not transfer to the case of things and their parts.

causally redundant, none of our ordinary reasons for believing in them are any good” (78).

- “The Overdetermination Argument shows how [agnosticism about baseballs] leads to the claim that *baseballs, if they exist, do not shatter windows*” (73, my emphasis). If the only objection to overdetermination were epistemic then the Overdetermination argument would show no such thing.
- “In light of the Overdetermination Argument, . . . if matter is infinitely divisible, then there are new levels of causal powers descending *ad infinitum*. That is, there are new levels of objects with causal powers that don’t merely reproduce the powers of those objects’ parts.” (115). I see no way to justify this conclusion given an epistemic reading of the overdetermination argument.
- In explicit contrast to the epistemic objection to overdetermination, Merricks says that “we should oppose systematic overdetermination on its own demerits” (147).

So while the epistemic objection is something Merricks accepts, he is also driven by a further objection to overdetermination. And yet, having rejected the metaphysical and coincidence objections, I cannot see what that phantom further objection could be.

At any rate, unlike the metaphysical and coincidence arguments, the epistemic argument is a reasonable one. But let us be clear about one thing. The epistemic argument is *not* an argument *against* the existence of non-living macro-entities. It is *only* an argument against one argument *for* those entities. It demonstrates no internal incoherence or awkwardness in an ontology that includes them; it only shows that such an ontology cannot be supported merely by the simple causal argument that non-living macro-entities must be postulated as causes of our sensory experience.

What ontology of non-living macro-entities should we accept? This cannot be settled quickly or easily; as Merricks agrees, global theoretical study is needed.<sup>12</sup> Merricks argues convincingly that his eliminativism would shed light on philosophical puzzles about material objects (chapter 2; chapter 7, section 3).

---

<sup>12</sup>Are ordinary people, who have not undertaken this theoretical study, justified in believing in baseballs? The matter is complex, but I would say yes; Merricks’s challenge to ordinary belief is like the challenge of more familiar external-world skeptics.

That is excellent evidence for a theory. But there are other theories. In defense of non-living macro-entities I would say, all too briefly<sup>13</sup>: i) The necessary principles governing when composition occurs cannot rule out *all* possible composites since “atomless gunk” is possible (Sider, 1993). They cannot be vague; otherwise it could be vague how many things exist. They cannot be non-vague and restrictive while remaining plausible. So they must be non-vague and unrestrictive. So they imply composition in *all* cases.<sup>14</sup> So non-living macro-entities exist. ii) Ordinary belief generates Moorean pressure to postulate composites. That pressure can of course be offset by pressure elsewhere, for example the pressure from Merricks’s arguments against non-living macro-entities in his chapter 2. But many theories (in particular, four-dimensionalist theories) have the means to resist this opposing pressure. The point here is just that there is *some* epistemic pressure towards non-living macro-entities. iii) Given the possibility of atomless gunk, non-living macroscopic entities are *possible*. While not supplying an argument for the actual existence of those entities, this undermines certain arguments against them, namely, arguments based on non-contingent premises.

The debate over the ontology of material objects will go on, and Merricks’s eliminativism will figure prominently in that debate. But I do not see the overdetermination argument, in its epistemic form anyway, as changing the face of this debate much. For few philosophers defending non-living macro-entities have ever rested their case on the simple causal argument that these entities must be postulated as causes of our experience.<sup>15</sup>

The epistemic objection is the only sensible objection to overdetermination, and its upshot is modest: the simple causal argument does not on its own justify belief in causally redundant entities. This moral carries over to the exclusion argument in the philosophy of mind. Since only the epistemic version of the argument has force, the argument can at best establish the epistemic conclusion that we need reasons beyond the simple causal argument to believe in mental properties and events.<sup>16</sup> Note that the epistemic interpretation of the argument

---

<sup>13</sup>See Sider (2001) for a more thorough discussion of these issues.

<sup>14</sup>Lewis (1986, 212-213); Sider (2001, section 9.1).

<sup>15</sup>At least, not since the availability of the eliminativist position has been appreciated.

<sup>16</sup>Note that the epistemic version of the argument presupposes a “sparse” conception of properties (see Putnam (1975); Lewis (1983)), according to which properties should be postulated only when they explain objective similarities or play a causal role. On the “abundant” conception of properties, properties are “cheap”, in that a property exists for each meaningful condition (or any set of possible worlds). Provided one is justified in being a realist about

does not fit the texts of actual philosophers of mind. Rather than claiming that the postulation of mental properties irreducible to physical properties is unjustified, they claim that such properties would be causally impotent if they existed. Thus, they seem to be relying on a phantom unjustified complaint about overdetermination.<sup>17</sup>

My subversive praise for illustrating the consequences of rejecting overdetermination should not obscure my admiration for *Objects and Persons*. It is intelligent, charming, crisply written (bouncy, even), timely.

*Rutgers University*

## References

Dretske, Fred (1989). "Reasons and Causes." *Philosophical Perspectives* 3: 1–15.

Funkhouser, Eric (2002). *Eluding Exclusion: Making Room for the Special Sciences*. Ph.D. thesis, Syracuse University.

Kim, Jaegwon (1989). "The Myth of Nonreductive Materialism." *Proceedings of the American Philosophical Association* 63: 31–47. Reprinted in Kim 1993c: 265–284.

— (1993a). "Mechanism, Purpose, and Explanatory Exclusion." In Kim (1993c), 237–264.

— (1993b). "The Nonreductivist's Troubles with Mental Causation." In Kim (1993c), 336–357.

— (1993c). *Supervenience and Mind*. Cambridge: Cambridge University Press.

Lewis, David (1983). "New Work for a Theory of Universals." *Australasian Journal of Philosophy* 61: 343–77. Reprinted in Lewis 1999: 8–55.

— (1986). *On the Plurality of Worlds*. Oxford: Basil Blackwell.

---

properties at all, on the abundant conception one needs no further justification to postulate a property in any given case. Similarly for events.

<sup>17</sup>I have no quarrel with those who argue that non-reductive materialists must clarify their conception of mind-body determination and their rejection of reduction. I object only to the use of complaints against overdetermination to drive these arguments.

- (1999). *Papers in Metaphysics and Epistemology*. Cambridge: Cambridge University Press.
- Putnam, Hilary (1975). “On Properties.” In *Mathematics, Matter and Method*, 305–322. Cambridge: Cambridge University Press.
- Sider, Theodore (1993). “Van Inwagen and the Possibility of Gunk.” *Analysis* 53: 285–89.
- (2001). *Four-Dimensionalism*. Oxford: Clarendon.
- van Inwagen, Peter (1990). *Material Beings*. Ithaca, NY: Cornell University Press.
- Yablo, Stephen (2002). “Mental Causation.” *Philosophical Review* 101: 245–280.