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ORDINARY OBJECTS AND THE OVERDETERMINATION ARGUMENT

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ABSTRACT: If an ordinary object causes an event, and if its atoms acting in concert cause the same event, then the event in question is overdetermined by two independent causes. The overdetermination argument aims to show that effects are never overdetermined in this way, and that we should only admit that the atoms acting in concert are the cause of the event in question. This means that the object constituted by those atoms does not cause anything, and if this is so, then the object does not exist. I submit that it is possible to resist the overdetermination argument by claiming that causation is strictly an event-event relation. However, the argument can be reformulated in a way that blocks this objection. I explain how the reformulated version of the argument can be resisted by claiming that there is only one causal event that is undergone by both the object and its atoms acting in concert. Additionally, I show how the epistemic argument that can be formulated in support of the overdetermination argument can be resisted as well.

KEYWORDS: Overdetermination; Ordinary objects; Eliminativism; Causation; Events.

1. INTRODUCTION

The overdetermination argument was introduced by Merricks (2001). What it aims to establish is that we should accept eliminativism. It does so by showing that for any ordinary object, anything that it causes can be explained as something that is caused by its atoms acting in concert. For example, if a baseball causes the shattering of a window, then there are atoms arranged baseballwise that also cause the shattering of that window. Since these two causes are independent, the effect is overdetermined by them. Plausibly, no event is

overdetermined in this way. We don't need two independent causes here, so one of them has to go. And if baseballs don't cause anything, then they don't exist. Here is how Merricks presents his argument:

> (1) The baseball—if it exists—is causally irrelevant to whether its constituent atoms, acting in concert, cause the shattering of the window.
>
> (2) The shattering of the window is caused by those atoms, acting in concert.
>
> (3) The shattering of the window is not overdetermined.
>
> Therefore,(4)
>
> If the baseball exists, it does not cause the shattering of the window. (Merricks, 2001: 56)

I think that the denial of premise (2) is the best strategy for resisting this argument. Accordingly, I submit that causation is a relation that obtains only between events. There is no object-event causation (or atoms-event causation), there is only event-event causation. In other words, causation is a relation between events, and *only* events. The effect is always an event, such as the shattering of a window. Likewise, a cause is never a thing (such as a baseball), nor a collection of things (such as atoms arranged baseballwise), instead it's always an event, such as *the impact* of a baseball (or of atoms arranged baseballwise). Premise (2) is false, so the overdetermination argument fails.

Olson (2002) says that Merricks does not discuss causation in general. I take it that what Olson means is that Merricks does not have a theory of causation. Arguably, this objection can also be raised against anyone who wishes to deny premise (2), such as myself. The idea is that without a theory of causation, there are no grounds for claiming that causation is strictly an event-event relation. I would agree with that idea. But this does not mean that I have to come up with my own theory of causation. Instead, I can choose to endorse some theory of causation that has already been developed by someone else. And this is indeed what I choose to do. The theory of causation that I endorse is the one that was developed by Mario Bunge throughout his publications.[1]

[1] For Bunge's theory of causation, see (1959, 1961, 1962, 1968, 1977, 1982, 2004, 2006, 2010). For discussions of that theory, see Schlegel (1961), Gibbs (1972), White (1990), Renton (1994), DeLanda (2012), Ingthorsson (2019), and Arthur (2019).

Although Merricks does not mention Bunge, he does anticipate the objection to premise (2) that I raised, when he says the following: 'This is the objection that only events, not atoms or any other objects, cause things to happen.' (Merricks, 2001: 65). He goes on to say that this can be interpreted in two ways. The first of them is that the objection in question is merely saying that there is a difference between events and objects insofar as both of them can be causes, and perhaps events can be causes in a more fundamental sense than objects. The second interpretation is the following one:

> Of course, we could interpret this objection as the claim that there is *no sense* in which objects cause things. This claim implies that (2) is flat-out false. (It also implies that the conclusion of the Overdetermination Argument is flat-out true.) But this claim is mistaken. Consider that however the details may vary, virtually all accounts of perception agree that an object can be perceived only if it causes something."(Merricks, 2001: 65)

This second interpretation is the one that Bunge would endorse, and it's the one that I endorse as well. Objects do not cause things, in any sense. Only events can be causes. So, as Merricks says, I certainly believe that premise (2) is flat-out false. And the admission that the conclusion of the overdetermination argument is true is harmless, because the baseball itself does not need to cause anything in order to exist. What causes the shattering of the window is the impact of the baseball (an event), not the baseball itself (an object). Contrary to Merricks, I submit that this claim is not mistaken. If it was, then Bunge's theory of causation would be incorrect. I take it that his theory is not incorrect. Therefore, whoever disagrees with me on this point will have to refute Bunge's theory of causation.

2. CAUSATION AND PERCEPTION ACCORDING TO BUNGE

Merrick's overdetermination argument has received a lot of attention in the literature. But, to my knowledge, no one has denied premise (2) by claiming that causation can only be an event-event relation.[2] Here I side with Bunge in

[2] For references, see Korman (2015: 192). Works that have discussed the overdetermination argument after the publication of Korman's book include Beebee (2016), Bernstein, (2016), Merricks (2016), Pearce, (2017), Skrzypek (2017), Korman, (2019), Barker, (2020), among others. None of these works has denied premise (2) by arguing that causation is strictly an event-event relation.

claiming that causation can only obtain between events.[3] His first and most extensive treatment of causation can be found in his (1959). In his (1977), he incorporated his theory of causation into a general ontological framework. The following quote sums up the gist of his theory: 'the causal relation obtains between events (changes of state in the course of time), not between things or their properties.' (Bunge, 2006: 90). He offers several examples. One of them is Hooke's law: 'The strain or deformation of an elastic body is proportional to the applied tension or load.' (Bunge, 2006: 90). The applied tension or load is an event, and the strain or deformation is another event. Furthermore, he says that the notion of energy transfer can be used to distinguish causation from correlation. Another example that he mentions is a hallucinogenic drug: 'For instance, not LSD by itself, but taking LSD, causes hallucinations.' (Bunge, 2010: 144-145). Still another example involves genes and phenotypic traits. As he explains: 'the expression or activation of gene *G* causes it to intervene in the biochemical reactions resulting eventually in the emergence of phenotypic trait *T*.' (Bunge, 2006: 90). The cause is an event: the expression or activation of gene G, not that gene itself. And the effect is another event: the emergence of phenotypic trait T, not that trait itself. To drive the point home, he says: 'Things do not cause processes: they undergo processes; and these in turn cause changes (events or processes) in other things.' (Bunge, 2006: 91).

It seems that Merricks would resist the denial of (2) by arguing that most philosophers of mind assume that objects can only be perceived if they cause something, and if this last claim is true, then it is not the case that causation is strictly an event-event relation. Recall that he says that 'virtually all accounts of perception agree that an object can be perceived only if it causes something.' (Merricks, 2001: 65). Contrary to this idea, Bunge says the following: 'Strictly speaking we do not perceive things but events (changes) occurring in things. Thus we cannot see an object unless it emits or reflects photons of a certain energy.' (Bunge, 1983: 37). So, it's not true that objects need to be causes in order to be perceived. He continues: 'And the way the animal perceives the events occurring in its neurosensors is by *mapping* them into events in some of its perceptual

[3] A change, according to Bunge, can be either an event or a process. He defines an event as an instantaneous change of state, while a processes is a series of events. For this reason, sometimes he speaks of causation as a relation between events, and at other times he is more precise, defining causation as a relation between changes, which can be events or processes. See (Bunge, 1977) for a detailed formulation of these concepts.

systems.' (Bunge, 1983: 37). Mapping, understood in this way is 'a representation of certain sets (of events) into another set (of events).' (Bunge, 1983: 37). The upshot is that causation and perception, according to Bunge, are ontologically similar because both of them are event-event relations. If Bunge is right about this, then Merrick's defense of premise (2) fails.

That being said, Merrick's overdetermination argument can be tweaked in such a way that, if we are to resist it, we must go about it in a different way. In the next section, I'll present a tweaked version of his argument, and I'll show how it can be resisted.

3. TWEAKING THE ARGUMENT

I've said that the overdetermination argument can be reformulated, in such a way that it is consistent with Bunge's theory of causation. The idea is that even if causation is only an event-event relation, it can be shown that the overdetermination argument still has bite. Here is the reformulated version of that argument:

(1*) The baseball's B-event —if it exists— is causally irrelevant to whether the A-event of its constituent atoms, acting in concert, cause the shattering of the window.

(2*) The shattering of the window is caused by the A-event of those atoms, acting in concert.

(3*) The shattering of the window is not overdetermined.

Therefore,

(4*) If the baseball's B-event exists, it does not cause the shattering of the window.

Unlike premise (2) of the original argument, premise (2*) of the tweaked argument is true. The shattering of the window, which is an event, was caused by another event, the one undergone by the atoms arranged baseballwise. Premise (3*) is just as plausible as its dual, (3). No event is overdetermined in the way that the overdetermination argument indicates.

I think that the best strategy here is to deny premise (1*). The baseball's B-event is not causally irrelevant in the way indicated by the premise in question.

In principle, this denial of premise (1*) can be motivated and articulated in a number of ways. But I believe that the best option, or at least the one that I will defend here, is the claim that the B-event is identical to the A-event. If the A-event is not causally irrelevant, and if the B-event is identical to the A-event, then the B-event is not causally irrelevant either, because these two seemingly different events are actually one and the same event.

This does not mean that the baseball is identical to the atoms arranged baseballwise. Two different entities, such as an object on the one hand, and a collection of atoms on the other, can share the same event, just as a lump of clay and the statue that it constitutes can share the same reddish color. And this does not mean that the lump and the statue share every property, since there are many that they don't share. But they do share some of them, such as color, size and weight. Likewise, the baseball and the atoms arranged baseballwise don't share every event. Possibly, there are events that are only undergone by the baseball, and there are other events that are only undergone by the atoms arranged baseballwise. But in some cases, they do undergo the same event. Impacting a window is one of those. There is no overdetermination in this case because there is only one cause (the impact), and only one effect (the shattering of the window). Premise (1*) is false, so the tweaked version of the overdetermination argument fails. In the next section, I'll discuss Korman's formulation of the overdetermination argument, and how to resist it.

4. KORMAN'S FORMULATION OF THE ARGUMENT

Korman offers an alternative formulation of the overdetermination argument, which I think is quite useful, because it seems to be more clear than the one that Merricks (2001) advances. Here is Korman's version of the argument:

(OD1) Every event caused by a baseball is caused by atoms arranged baseballwise.

(OD2) No event caused by atoms arranged baseballwise is caused by a baseball.

(OD3) So, no events are caused by baseballs.

(OD4) If no events are caused by baseballs, then baseballs do not exist.

(OD5) So, baseballs do not exist. (Korman, 2015: 8)

Korman's solution is to deny OD2. By contrast, I believe that OD2 is true. But it's true for the wrong reasons. And OD3 is also true for the wrong reasons. The reason why these premises are true is because objects themselves do not cause events. Rather, the objects themselves undergo an event, and that event is the cause. By contrast, I believe that OD1 and OD4 are both false. OD1 is false because no event is caused by a baseball, and no event is caused by atoms arranged baseballwise either. Every event that is allegedly caused by a baseball is not caused by the baseball itself, but rather by an event that the baseball undergoes. OD4 is false because the antecedent is true while the consequent is false. In other words, it's true that no events are caused by baseballs, but this doesn't entail that baseballs do not exist. In other words, there is no object-event causation (or atoms-event causation), there is only event-event causation. One of the events is the cause, and the other event is the effect. Objects undergo events, but objects themselves are not causes of anything, only the events that these objects undergo can be the causes of other events. Since OD1 and OD4 are false, the overdetermination argument fails.

However, Korman's version of the argument can be tweaked, so that instead of conceptualizing causation as an object-event relation, we instead understand it only as an event-event relation. Here is how the overdetermination argument can be tweaked:

(OD1*) Every event caused by a B-event is caused by an A-event.
(OD2*) No event caused by an A-event is caused by a B-event.
(OD3*) So, no events are caused by B-events.
(OD4*) If no events are caused by B-events, then baseballs do not exist.
(OD5) So, baseballs do not exist.

Unlike OD1, which is false, OD1* is true. If a baseball undergoes an event such that the latter causes another event, then the first event (the cause) is an event that is undergone by atoms arranged baseballwise. Unlike OD2, which is true, OD2* is false. If atoms arranged baseballwise undergo an event, then there is a baseball that also undergoes that event. And OD3* is false, unlike OD3, which is true. There are events that are caused by B-events. OD4*, unlike OD4, is true, but for the wrong reasons. If OD4* were false, this could only be the case

if the antecedent is true while the consequent is false. But the antecedent of OD4* is false, and its consequent is also false. According to the truth table for conditional statements, if both the antecedent and the consequent are false, then the conditional statement is true. Yet, by showing that OD2* and OD3* are false, this reformulated version of the overdetermination argument fails.

6. THE EPISTEMIC ARGUMENT

In addition to the overdetermination argument, Merricks also formulates an epistemic argument that aims to show that we have no reason to believe in objects such as baseballs in the first place. Here is how Korman formulates the argument in question:

(OD8) One should believe that an event is overdetermined by A and B only if one is justified in believing in A and B themselves.

(OD9) We are justified in believing in baseballs only if we are *perceptually* justified in believing in baseballs.

(OD10) No one is perceptually justified in believing in trogs.

(OD11) We are perceptually justified in believing in baseballs only if we are also perceptually justified in believing in trogs.

(OD12) So, we are not perceptually justified in believing in baseballs.

(OD13) So, we should not believe that any events are overdetermined by a baseball and atoms arranged baseballwise. (Korman, 2015: 196)

Korman denies OD11. For my part, I deny OD8. Korman doesn't discuss the possibility of denying OD8, instead he says that 'OD8 is obvious' (Korman, 2015: 196). But this is exactly the option that I choose. In order to see why, it will be useful to formalize this argument using propositional logic, like so:

(OD8) $e \leftrightarrow (a \wedge b)$
(OD9) $b \leftrightarrow p$
(OD10) $\neg t$
(OD11) $p \leftrightarrow t$
(OD12) $\neg p$
(OD13) $\neg e$

I say that OD8 is false. Recall that there are only two cases in which a formula like $\phi \leftrightarrow \psi$ can be false: (i) when the antecedent is true and the consequent is false, or (ii) when the antecedent is false and the consequent is true. I say that 'e', the antecedent, is false, while '(a $\wedge$ b)', the consequent, is true. I am justified in believing in atoms arranged baseballwise and in baseballs themselves, but this does not entail that I should believe that an event is overdetermined by atoms arranged baseballwise and a baseball. The reason is that no event is caused by an object, causality is strictly and exclusively a relation between events. There is no object-event causation, only event-event causation, so the proposition 'e' in OD8 is false. This being so, OD8 itself is false, and the epistemic argument fails.

That being said, the argument could be tweaked in a way that all of the occurrences of object-event overdetermination are replaced by event-event overdetermination. This means that OD8 and OD13 should be replaced by OD8* and OD13*, like so:

(OD8*) One should believe that an event is overdetermined by an A-event and a B-event only if one is justified in believing in A and B themselves.

(OD9) We are justified in believing in baseballs only if we are *perceptually* justified in believing in baseballs.

(OD10) No one is perceptually justified in believing in trogs.

(OD11) We are perceptually justified in believing in baseballs only if we are also perceptually justified in believing in trogs.

(OD12) So, we are not perceptually justified in believing in baseballs.

(OD13*) So, we should not believe that any events are overdetermined by a B-event and an A-event.

I deny OD8*, but for different reasons than the ones that motivate my denial of OD8. In the case of OD8, I deny it because there is no object-event causation. In the case of OD8*, I deny it because I claim that the A-event and the B-event are identical. There is no overdetermination here, because the effect is not overdetermined by two different causes (an A-event and a B-event), instead it is simply determined by a single cause, since the A-event and the B-event are identical. Since OD8* is false, the tweaked version of the epistemic argument fails.

7. CONCLUDING REMARKS

I have argued that Merrick's overdetermination argument fails because it contains a false premise. Specifically, I claim that the causal relation only obtains between events. In other words, there is no object-event causation, there is only event-event causation. The shattering of a window is caused by the impact (an event) of a baseball, not by the baseball itself (an object). Similar considerations apply to the atoms arranged baseballwise. These atoms are not the cause of the shattering of the window, instead the cause is the impact of these atoms, which is an event that they undergo. And this is enough for rejecting the overdetermination argument.

However, I have shown that the argument can be tweaked, so that instead of claiming that the shattering of the window was caused by atoms arranged baseballwise, it claims that it was caused by an A-event and a B-event. If this is so, then the shattering is overdetermined by those two causes. In order to resist the tweaked version of the argument, we need a different strategy. Specifically, I claim that the A-event and the B-event are identical. The shattering of the window is not overdetermined because there is only one event that causes it, and that event is common to the baseball as well as the atoms arranged baseballwise. This is analogous to the sharing of properties. For example, a lump of clay and the statue that it constitutes share the same reddish color, size, and weight. The fact that the lump and the statue share some properties does not mean that they are identical, and the fact that the baseball and its atoms undergo the same event does not mean that they are identical either.

I then considered Korman's formulation of the argument, and I rejected it by denying two of its premises, arguing once again that there is no object-event causation, there is only event-event causation. I showed how Korman's version of the argument can be reformulated so as to incorporate the concept of causation that I endorse. The tweaked version of that argument requires a different strategy, in order to reject it. Once again, I argued that the A-event and the B-event are identical. This being so, the shattering of the window is not overdetermined by two different causes, since it only has one cause that is common to both the baseball and its atoms. So, the tweaked version of Korman's formulation of the argument fails.

Finally, I considered the epistemic argument that can be formulated in

support of the overdetermination argument. Predictively, I rejected that argument by claiming, once again, that the causal relation can only obtain between events. I also formulated a tweaked version of the epistemic argument, and I rejected it by arguing that the event undergone by the baseball and the event undergone by its atoms arranged baseballwise are the same event.

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