Comments on Barbara Montero, "Must Physicalism Imply the Supervenience of the Mental on the Physical?"

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Barbara Montero pursues two main strategies to undermine the common thought that physicalism implies the supervenience of the mental on the physical. One strategy is to criticize a few arguments (from Frank Jackson and myself) for that claim; another is to describe some possible situations in which such supervenience fails yet it is plausible to say that physicalism is true. In my comments I address both. I think that her criticism of Jackson's argument is on target, but—as will surprise no one—I think that mine remains unscathed. As for the second strategy, I think that insofar as the scenarios are indeed cases in which it is plausible to say that physicalism is true, they are simply exploiting two different ways of understanding what philosophers have in mind with the term "physical." Once the ambiguity is cleared, it is plain that they have no significance for the question as to whether physicalism implies a corresponding supervenience thesis.

1.

Montero considers a short argument I offered for thinking that physicalism implies supervenience. Let me quote from myself at slightly greater length than Montero:

> If the nonphysical realm is nothing over and above the physical realm, then the physical state of the world suffices for its nonphysical state. In general, if the fact that P is nothing over and above the fact that Q, then Q suffices for P, where this sufficiency is of the broadly logical or metaphysical sort. The argument for this general principle is short and sweet. Suppose Q didn't suffice for P. That is, suppose it is possible for it to be true that Q while not true that P. Then something in addition to the fact that Q is needed to make it true that P, in which case, surely, the fact that P *is* something over and above the fact that Q. (Witmer 2001: 58)

The point being made here is, I stress, supposed to be perfectly general: it's not just about physicalism but about any -ism of the same kind. Any thesis to the effect that such-and-such facts are nothing over and above another set of facts has the same implication. If the world is fundamentally mental, then the nonmental supervenes on the mental; if it is fundamentally X, then the non-X supervenes on the X. I take it to be just part of the intuitive conception of physicalism that it is a thesis of this sort—one that,

intuitively described, is a claim about one sort of fact being nothing over and above another sort.[1]

I was, then, quite surprised at Montero's critical response:

> The argument is short, but I question its sweetness. To be sure, if P does not supervene on Q, then P will be, in some sense, over and above Q. But Witmer has not argued that physicalism must imply that higher-level properties cannot be over and above lower-level properties. Certainly, physicalism must imply that all properties are physical in the broad sense, but we do not yet have a reason for thinking that in order for higher-level properties to be physical in the broad sense, they must supervene on fundamental physical properties. (Montero 2012)

What I found shocking was the idea that there would be any need at all to argue that physicalism implies that the "higher-level" properties cannot be anything over and above the physical properties. As I said, that seemed to me to be close to an expression of just what the core intuitive idea is in the first place.

Montero's challenge, then, is perhaps best taken as a challenge to my thought that the "nothing over and above" talk is crucial to the core idea of physicalism. She does offer here a comment that hints at an alternative formulation of that core idea when she acknowledges that "physicalism must imply that all properties are physical in the broad sense." It may be useful, then, to consider just this thesis as an alternative expression of the core intuitive physicalist idea.

> (1) All (actually instantiated) properties are either fundamental physical properties or broadly physical properties.

I don't mean to saddle Montero with the claim that this is in fact the best way to capture the core idea. After all, she later says a few things that suggest further alternate proposals for how to capture the idea. But it will be useful to see just how poorly (1) fares in contrast to (2), which I take to capture the core idea rather well.

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[1] An important consequence of this line of argument is that the sort of supervenience thesis one finds plausible makes a difference as to which exact "nothing over and above" thesis one can accept. Consider the supervenience thesis Montero focuses on: Any world which is a minimal physical duplicate of our world is a duplicate simpliciter of our world. If this is as strong a supervenience thesis we can get, it seems at least misleading to say that all the contingent facts are nothing over and above the physical facts, simply because "the physical facts" is most naturally read as including only the physical facts as enumerated and not as including any kind of "that's all" fact. If I am right that "nothing over and above" talk implies sufficiency, then such a possibility either shows that physicalism is false or that physicalism is better understood as the claim that all the contingent facts are nothing over and above the physical facts *and* their being all the fundamental facts.

This consequence opens me up to a certain line of attack. One might argue that, first, it is intuitively clear that physicalism need not require a stronger supervenience thesis than the minimal physical duplicate thesis, and, second, physicalism ought still to be understood as the claim that the contingent facts are nothing over and above the physical facts—period. If we grant both of those, then my claim that "nothing over and above" talk implies sufficiency is false, for we have here nothing-over-and-aboveness without sufficiency. Perhaps a weaker sufficiency is implied as per the suggestions made by Stephen Leuenberger in "*Ceteris Absentibus* Physicalism" (2008). While I can't take the time here to defend this, my own view is that no such weakening of the sufficiency claim is needed; it is, rather, perfectly plausible that the core idea of physicalism is expressed better by saying that all facts are nothing over and above the physical facts *and* their being all the fundamental facts.

(2) All (actual) facts are either physical facts or are nothing over and above the physical facts.

It seems to me (1) cannot be made to work as an expression of physicalism. To see this, consider two options one might take in understanding (1). On the first option, the category of the "broadly physical" is understood in a relational way, so that something is broadly physical iff it is related in the right way to the fundamental physical. On the second option, the category is not understood by reference to any such relation.

Consider the first. One's first impulse—mine, at least—is to say that "broadly physical" must mean "is nothing over and above the fundamental physical." But this is not an option Montero can take. After all, she denies that we have reason to think that the "broad sense" of physicality itself requires supervenience on the "fundamental physical," and she agrees that a "nothing over and above" claim implies supervenience. So some other relation must be chosen.

What could that relation be? Here are a few possibilities. We might say it is identity, but in that case (1) is the same as (1*):

(1*) All (actually instantiated) properties are fundamental physical properties.

I am confident Montero does not have this in mind, and, more important, that no contemporary physicalist would rest content with this. It has long been accepted that physicalism does not require such a commitment to type identities.

Here are a few other options. We might say that a broadly physical property is one that supervenes on the fundamental physical—but obviously that would run counter to Montero's claim. Perhaps we could say that a broadly physical property is one that is always *realized* by a fundamental physical property? This is an interesting option, but it is of no use to Montero, as the usual understanding of realization implies a supervenience claim. One other try: perhaps we could say that the broadly physical is that which is *composed of* or *constituted by* the fundamental physical. Well, perhaps. The main problem here, I think, is that so far as our intuitive grip on talk of composition goes, it is grounded in thinking about particular objects (parts compose a whole), which is not relevant for thinking about properties, and constitution is too close to a term of art to make much use of without appeal to further clarification. Such clarification might well take the form of saying that X is constituted by A, B and C only when the fact that X exists is nothing over and above the fact that A, B and C exist.

Suppose we drop the attempt to make sense of "broadly physical" in such relational terms and take it as a term we can understand independently of such. I suspect, in fact, that this is how Montero is thinking of the category. But here, I submit, the consequences are unacceptable. For however "broadly physical" is to be understood, I take it as obvious that no pre-existing intuitive sense of "physical" is going to have the result that mental properties count as broadly physical. One can well see how an intuitive sense of "physical" should count various phenomena that Montero describes as broadly physical: chemical bonding, neurological states, and so on. But if the mental is to count as broadly physical, the only plausible option is a type identity theory:

neurological properties may count as broadly physical, and so if mental properties are identical with those, then they also count as broadly physical. But as we saw earlier, it is unacceptable to force the physicalist to commit to either eliminativism about the mental or a type identity theory.

The upshot is simple. If we want to allow non-eliminativist physicalism that isn't committed to a type identity theory, it is hard to avoid appealing to a relation between the mental and the physical, and that relation would seem bound to imply that the mental is nothing over and above the physical, which in turn seems bound to imply a supervenience thesis.

As mentioned earlier, Montero suggests some other ways of expressing the core physicalist idea, and it will be instructive to consider those in contrast to my preferred (2) as well. At one point, she is quite explicit in suggesting an account of the core physicalist idea. After describing some scenarios in which supervenience fails, she writes:

> The reason, as I see it, why physicalism could still hold in such a disorderly world is that the core physicalist commitment is a rejection of the idea that mentality requires special consideration, as it were, in the creation of the universe, a rejection of the idea that, in order to set the universe in motion, God needed to create not only fundamental physics, but also mentality. (7)

There is an unhappy tension between two parts of this statement. On the one hand, the first part says only that mentality is not exceptional; it occupies the same kind of place in the world as other phenomena. On the other hand, the second part invoking the theistic metaphor says something stronger: that there was no need for a special creation of the mental beyond the fundamental physical. To see how the second point is stronger than the first, consider the following position one might hold. Call this a simple fundamentalist pluralism: all the distinguishable kinds of phenomena are metaphysically independent of each other. The chemical is something over and above the physical; the biological is over and above the chemical; and so on. In this situation, the mental is not exceptional; it is of a piece with the rest of the world. But this would be a situation in which God *does* have to create mentality in addition to create the fundamental physical realm.

More important, I think, is that if we adopt the first "unexceptional status" claim as the core physicalist idea, we have an unacceptable result. No physicalist will accept the simple fundamentalist pluralism I described above; on that view, the mental is metaphysically fundamental, and Montero herself is quite convinced that the rejection of such fundamentality is key to the physicalist claim. In other words, we cannot accept (3) as expressing the core physicalist idea:

> (3) However the mental relates to the rest of the world, that relation is unexceptional; many other domains bear the same relation to the rest of the world.

On my own view, (3) does express something interesting; I think it comes close to capturing what people mean when they describe themselves as "naturalists" in a metaphysical sense. But it surely is too weak for physicalism.

Montero recognizes that the physicalist should rule out the metaphysically basic status of the mental through some means, but here her comments are brief and, I think, rather cryptic. In one place, she writes:

> [P]hysics could still be more fundamental than the other sciences in a world without supervenience. For example, even if higher-level features of the world failed to supervene on fundamental physics, physicalists could still uphold the primacy of physics in claiming that physics, as opposed to, say, genetics, studies certain aspects of everything: quarks and leptons comprise genes but not vice versa. (8)

The suggestion here appears to be that we can cash out the idea that physics fundamental by means of (4):

> (4) Everything has some physical aspect.

But surely (4) is insufficient for physicalism. To say that everything has some physical aspect is just to say that everything has some physical property. This is compatible with traditional property dualism, but physicalism should rule out such dualism.

One other suggestion is made by Montero when she affirms that she wants to reject, too, the claim that physicalism requires that the mental supervene on the non-mental:

> [E]ven if the mental does not supervene on the nonmental...[the physicalist who thinks of the physical as the nonmental] could still hold that the nonmental is more fundamental than the mental because the mental is composed of the non-mental but not vice-versa. (8)

Talk of "composition," however, makes clearest sense if we're talking about particular objects; parts compose wholes, but do properties compose properties? Montero may wish to switch instead to talk of constitution, or perhaps realization, or the like, but my comments about these options earlier apply again: clarifying them is likely to imply a supervenience thesis.

I've gone on too long already, but let me just sum up this part of my comment. The sort of challenge Montero offers for the argument I gave is best construed as the claim that some other way of capturing the core idea of physicalism is available, one that doesn't indulge in "nothing over and above" talk and which doesn't commit the physicalist to the supervenience of the mental on the physical. I fail to see any such alternative.

2.

Now let me turn (more briefly!) to the second strategy Montero pursues: describing scenarios in which physicalism remains true despite the failure of the mental to supervene on the physical. Consider her first scenario:

> Imagine that our world were such that duplicating our fundamental physics—that is, duplicating the world's quantum state, or whatever it is that is actually fundamental—would fail to duplicate any higher-level entities or properties whatsoever. . . . Must this be a world in which physicalism is false? Or to narrow the question down, must we take the chemical bonds (and the properties thereof) in this world as nonphysical? There seems to be no reason to think that we must. (5)

A bit later, she writes:

> Are we loath to take chemical bonding as nonphysical merely because we are utterly convinced that it does supervene on physics? For some, this may be part of the motivation. But I think it is not all of it, for I think that if it were widely accepted that chemical bonding does not supervene on physics, even the staunchest believer in the implication from physicalism to supervenience would relent; the nonsupervenience of chemical bonding on physics just doesn't matter enough to make us give up physicalism. (6)

It is not hard to feel the pull of this intuition. But I think what is going on here is simple. Recall that Montero invoked the category of the "broadly physical" earlier. In my attempt to find an alternate expression of the core thesis I consider taking "broadly physical" as explained in terms of a relation to the physical in some stricter sense and taking it as a category understood otherwise. I believe that here what is happening is that Montero is understanding "broadly physical" in the second fashion, not as a category of things that fit into a physicalist world because they enjoy the right relation to the physical properly understood but, rather, as a category that just provides a broader, more liberal way of understanding what "physical" might mean in the first place. Not to put too fine a point on it, it seems to me that what explains the appeal of Montero's judgement here is that (i) she is still (without realizing it) thinking of the core idea as the claim that all the facts are either physical or nothing over and above the physical, but (ii) now the chemical properties count as simply physical to start with, so facts about those properties could not, on their own, pose any threat to the physicalist thesis.

In the second scenario she describes, where biological properties fail to supervene on physical properties yet mental properties are identical with neurological properties, the same thing is going on. Biological properties may count as "broadly physical" and be put in the metaphysical base, so their failure to supervene on other aspects of the metaphysical base doesn't matter.

Montero recognizes that this may be going on when she writes:

> Thus, one might think that all my thought experiment shows is that if our world were like this, then the supervenience base should expand to include the

> chemical, or as Jackson suggests, all the physical sciences. But if physicalism does not require the chemical to supervene on physics, why should it require the mental to supervene on the physical sciences? (7)

My point is not quite what she anticipates here. I don't think that consideration of these cases calls for revising the physicalist formulation. I think, rather, that they show that there are at least two distinct theses that might be at issue when a philosopher talks about physicalism. One thesis takes the metaphysically fundamental properties to be just those that are delineated in an ideal physics, while the other, more expansively, allows as fundamental all of those and all those properties delineated by the "physical sciences"— chemistry, biology, geology, and so on. What I want to stress, however, is that, corresponding to each choice is an implied supervenience thesis. If we take "physical" to delineate the ontology of an ideal physics, physicalism indeed implies that the chemical, biological, and the mental all are nothing over and above the physical; while if we take "physical" more liberally to include as basic the chemical, biological, and so on, then there still is an appropriate "nothing over and above" claim for the items not already in that list—most famously, the mental. None of Montero's examples cast doubt on these implications; they merely direct our attention to the second, less demanding form of physicalism.

Still, what should we make of the question Montero poses? "[I]f physicalism does not require the chemical to supervene on physics, why should it require the mental to supervene on the physical sciences?" There is a straight but uninteresting answer to this: if we're just trying to provide an accurate formulation of the core idea, then it may just be that the core idea we actually have in mind in fact requires one but not the other—end of story.

Arguably, however, Montero is getting at a different point, one about justification. Let us consider three positions:

> (5) All actual facts are either (narrowly) physical or nothing over and above the narrowly physical.
>
> (6) While (5) is false, all facts are either (broadly) physical or nothing over and above the broadly physical.
>
> (7) Both (5) and (6) are false.

The character of Montero's question suggests that if we give up on the more ambitious (5) and aim to support (6) instead, we will be in a position where we really should just drop that as well and opt for (7). The idea, perhaps, is that whatever justification we have for physicalism is justification for (5), and if we opt for (6) and deny (5), we will have given up on that justificatory strategy, whatever it was, and have nothing left to support (6); so we have nothing to motivate either physicalist thesis and end up at (7).

I am sympathetic with this. Though the topic would take us too far afield (and make a too-long comment even longer), it seems to me that the arguments for physicalism that have real promise aim at the stronger (5). Arguments from causal completeness or the

history of reductive success make best sense when "physical" is understood in terms of the ontology of physics, not the physical sciences more generally. The kind of "physicalism" that takes the metaphysically basic realm to be as expansive as all the physical sciences may well be unmotivated if we give up the motivation for the less expansive version. In either case, *pace* Montero, the thesis will imply a corresponding supervenience claim.

References

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