

Panpsychism and Non-standard Materialism: Some Comparative Remarks

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Introduction

Much of contemporary philosophy of mind is marked by a dissatisfaction with the two main positions in the field, standard materialism and standard dualism, and hence with the search for alternatives. My concern in this paper is with two such alternatives. The first, which I will call *non-standard materialism*, is a position I have defended in a number of places, and which may take various forms.¹ The second, *panpsychism*, has been defended and explored by a number of recent writers.² My main goals are: (a) to explain the differences between these positions; and (b) to suggest that non-standard materialism is more plausible than panpsychism.

I will begin by reviewing briefly why the standard views are unsatisfactory. I will then turn to our main business, the comparison of non-standard materialism and panpsychism.

Standard Materialism

The project of transforming the impressionistic idea of materialism into something more tractable is a large and surprisingly complex one. Here I will work with a formulation due to David Lewis that starts from the assumption that any possible world, and so the actual world in particular, instantiates a relatively small class of fundamental properties, where ‘fundamental’ or ‘perfectly natural’ properties are (among other things) “not at all disjunctive, or determinable, or negative. They render their instances perfectly similar in some respect. They are intrinsic; and all other intrinsic properties supervene on them” (2009, 204; see also Lewis 1994, 291). This assumption is certainly non-trivial, but it is not important for us to evaluate it here. The important point is rather that if we make this assumption, we have a natural way of stating the basic idea of materialism, as follows:

Materialism (basic idea): all instantiated fundamental properties are physical properties.

Understood this way, materialism does not entail that all instantiated properties whatsoever are physical. It permits that many instantiated properties are non-physical, so long as those properties are not fundamental but instead supervene on, or are necessitated by, the fundamental properties.

¹ See, e.g. Stoljar 2006, 2014, 2015. For further discussion see Pereboom 2011, 2014. Two terminological points: (a) I will use ‘materialism’ and ‘physicalism’ interchangeably here. (b) In other work I have argued that, strictly speaking, there is no thesis at all which is true and deserves the name ‘physicalism’; see Stoljar 2010. In this paper, as is in fact common in philosophy of mind, I will ignore this and use the notion informally.

² See, e.g., Strawson 2006, Chalmers forthcoming, Goff 2010, Morch 2015, Roelofs 2015, Seager and Allen-Hermanson 2015.

If this is the basic idea of materialism, what is ‘standard’ materialism? Standard materialism (at least as I will understand it) takes this basic idea and adds that the physical properties in question are standard, where by a ‘standard physical property’ I mean a property of the kind expressed by the physical theories we currently have:

Standard Materialism: all instantiated fundamental properties are standard physical properties.

For the standard materialist, therefore, “materialism is metaphysics built to endorse the truth and descriptive completeness of physics more or less as we know it” (Lewis, 1986a, p.x).

Standard materialism faces a number of challenges but the most prominent of these is the conceivability argument and similar arguments. The conceivability argument—to put it roughly but serviceably for present purposes—proceeds from two premises. The first premise is that it is conceivable that there is world identical to the actual world in respect of fundamental physical properties, and yet different from it in terms of the nature and distribution of certain psychological properties, in particular those associated with phenomenal consciousness. The second premise is that if this is conceivable it is possible. These two premises entail that standard materialism is false, since standard materialism entails that such properties supervene on or are necessitated by the fundamental physical properties, a claim which rules out the possible world in question. Of course there are many things to be said about the conceivability argument, but I will not go in the details here. Instead, I will assume that, whether it is successful or not, it at least motivates the search for an alternative to standard materialism.

Standard Dualism

Turning now to dualism, the basic idea here too may be formulated in the framework we have taken over from Lewis:

Dualism (basic idea): (a) some instantiated fundamental properties are psychological properties; and (b) all instantiated non-psychological fundamental properties are physical properties.

Understood this way, dualism agrees with materialism about all instantiated properties apart from psychological ones.

If this is the basic idea of dualism, what is ‘standard’ dualism? Well, standard dualism takes this basic idea and adds both that physical properties are standard (in the way indicated above) and that the psychological properties in question are standard too, where by a ‘standard psychological property’ I mean a property of the kind expressed by folk psychological theories of the sort we

currently have; hence a standard psychological property is for example having an itch in your toe, seeing a cup, believing that snow is white, or wondering about your financial position:

Standard Dualism: (a) some instantiated fundamental properties are standard psychological properties; and (b) all instantiated non-psychological fundamental properties are standard physical properties.

For the standard dualist, therefore, dualism is metaphysics built to endorse the near truth and near descriptive completeness of physics more or less as we know it—the only exceptions are standard psychological properties.

Like standard materialism, standard dualism a number of challenges, but perhaps the most prominent is the exclusion argument and related arguments. The exclusion argument—to put it again roughly but serviceably for present purposes—proceeds from two premises. The first premise—the closure premise—is that for every physical event that has cause, there are physical properties that are causally efficacious in the production of that event. The second premise—the exclusion premise—is that if some property F is causally efficacious in the production of an event, then no property metaphysically distinct from F is also causally efficacious in the production of that event. These two premises entail that standard dualism is false, at least if we assume (reasonably) that psychological properties are causally efficacious in the production of behaviour. For the events involved in the behaviour of people and animals are physical events. And physical events, according to the closure premise, are such that physical properties are causally efficacious for their production. But then if standard dualism is true, psychological properties are not causally efficacious—for if they were they would have to be so in addition to physical properties, and this is something ruled out by the exclusion premise. There is much to say also about the exclusion argument, but again here I will assume that, whether or not it is successful, it at least motivates the search for an alternative to standard dualism.

What then might these alternatives be? As I said above I will be concerned with non-standard materialism and panpsychism, and it is to these that I now turn.

Non-Standard Materialism

Non-standard materialism takes the general idea of materialism above and adds that the physical properties in question can be *either* standard *or* non-standard:

Non-standard Materialism: all instantiated fundamental properties are either standard physical properties or non-standard physical properties

So non-standard materialism is logically weaker than standard materialism; it does not require that the fundamental properties are standard physical properties.

What is a non-standard physical property? There are two main strategies of approaching this question.³ The first, which I will call the Nagelian strategy, contrasts physical theories we currently have with the physical theories that we will (or might) have in the ideal limit, or equivalently for present purposes, with the physical theories (whatever they are) that are true and complete. If we assume that the theories that we currently have are either not true or not complete, there is a difference between the properties expressed by current theories (i.e. standard physical properties) and those expressed by ideal theories (i.e. non-standard physical properties). Correlatively, we have a Nagelian version of non-standard materialism, according to which all fundamental properties are either standard or non-standard physical properties (in the Nagelian sense).

The second strategy, which I will call the Russellian strategy, appeals to the idea that standard physical properties are structural or dispositional properties and then suggests that there must be non-structural or non-dispositional properties that ground the standard properties in question. If we assume that these non-structural or non-dispositional properties are not expressed by physical theories of the kind we currently have, we have a distinction between dispositional or structural properties expressed by those theories (i.e. standard physical properties) and non-dispositional or non-structural properties which ground such properties (i.e. non-standard physical properties). Correlatively, we have a Russellian version of non-standard materialism, according to which all fundamental properties are either standard or non-standard physical properties (in the Russellian sense).

There is a lot to say about the contrast between the Nagelian and Russellian versions of non-standard materialism. This contrast is not our focus here, although I will say a little about it below. But why should we adopt a version of non-standard materialism of any sort in the first place?

Well, non-standard materialism has two apparent advantages. First, unlike standard materialism, it does not face the conceivability argument. The reason is that our epistemic relation to the non-standard properties (on either the Russellian or the Nagelian version of non-standard materialism) is quite unlike our epistemic relation to standard properties; in particular, while we can *describe* non-standard properties, we don't know what they are, and since we don't know what they are, we cannot reason about them in the way that the conceivability argument requires. Second, unlike standard dualism, non-standard materialism does not entail that standard psychological properties are fundamental; hence it does not face the exclusion argument about these properties.

³ For some discussion of these two strategies see Stoljar 2015.

Non-Standard Dualism

Turning now to panpsychism, it is helpful here first to formulate a more general position I will call non-standard dualism. Non-standard dualism takes the basic idea of dualism and replaces ‘standard psychological property’ with ‘non-standard psychological property’:

Non-standard Dualism: (a) some instantiated fundamental properties are non-standard psychological properties; and (b) all instantiated non-psychological fundamental properties are standard physical properties.

So non-standard dualism, unlike standard dualism, and like all the forms of materialism we have considered, entails (at least with trivial further assumptions) that standard psychological properties are not fundamental.

What is a non-standard psychological property? As will emerge as we proceed, this is a difficult question for any sort of non-standard dualism. But to a first approximation (I will consider further proposals in a moment) we may assume that a non-standard psychological property is a psychological property like any other except that it has (or may have) a non-standard bearer. Standard (i.e. usual) bearers of psychological properties are objects such as people or animals, and an important feature of these objects is that they do not themselves instantiate fundamental physical properties. Non-standard psychological properties are instantiated in such objects, but also in other objects; in particular, in the bearers of fundamental physical properties. So for example, if some electron—a bearer of a fundamental physical property—has some psychological property *F*, then, *F* is a non-standard psychological property in this sense.

From Non-standard Dualism to Panpsychism

Non-standard dualism is not yet panpsychism. If you let etymology be your guide, the basic idea of panpsychism is that everything *whatsoever* has psychological properties. And if you let the recent literature be your guide, as I will here, the basic idea is that everything *that is fundamental*—that is, every bearer of a fundamental property—has psychological properties. By itself non-standard dualism is not committed to these claims. It is consistent with non-standard dualism, for example, that only some, or indeed only one, bearer of a fundamental property has a psychological property.

However, while this is true, it is possible to add a further requirement to non-standard dualism, and so obtain the version of panpsychism we will be interested in, as follows:

Panpsychist non-standard Dualism: (a) some instantiated fundamental properties are non-standard psychological properties; (b) all instantiated non-psychological fundamental properties are standard physical properties; and (c) everything that bears a fundamental physical property bears a fundamental property that is a non-standard psychological property.

The requirement formulated in (c) is an optional extra for non-standard dualism. If we add it, we get a panpsychist version non-standard dualism; if we do not, we get a version of non-standard dualism that may not be panpsychist. I will come back later to whether the panpsychist version of the view is preferable to the non-panpsychist version. But first, why adopt non-standard dualism of any sort?

Well, like non-standard materialism, non-standard dualism has two apparent advantages as well. First, unlike standard dualism, it does not entail that standard psychological properties are fundamental; hence it avoids the exclusion argument about such properties. Second, unlike standard materialism, it does not entail that standard psychological properties supervene on standard physical properties, and so avoids the conceivability argument about such properties.

Three Problems for Panpsychism

Whatever its attractions, panpsychist non-standard dualism (hereafter ‘panpsychism’) faces at least three big problems.

Big Problem 1 is that it provokes an incredulous stare.⁴ Surely electrons do not think and feel! That suggestion is on the face of it offensive to common sense in a very basic way.

Big Problem 2 is that, while panpsychism does not face the modal challenge in the form of the conceivability argument formulated above, it nevertheless faces an analogous argument; indeed this point is extremely prominent in the recent literature.⁵ According to this argument, it is conceivable, and so possible, that there is possible world identical to the actual world in respect of fundamental physical properties and fundamental non-standard psychological properties, and yet different from it in terms of the nature and distribution of certain standard psychological properties, in particular those associated with phenomenal consciousness. If this is possible then panpsychism is false, for the same reason that standard materialism is false in the analogous situation.

Big Problem 3 is that, while panpsychism does not face the exclusion argument about standard psychological properties, it nevertheless faces analogous challenge. For consider some electron α , and suppose, in accordance with panpsychism, that α has both psychological and physical properties. If we assume, as we should, that α behaves in various ways, we can mount an

⁴ This phrase is borrowed, of course, from Lewis; see Lewis 1986, 133

⁵ I have in mind here the recent literature on the so-called combination problem (as Seager puts **its**; see Seager and Allen-Hermanson 2015). See, e.g., Goff 2010, Chalmers 2014, Morch 2015, Roelofs 2015.

argument about it just as we did earlier about people and animals. For the events involved in the behaviour of α are physical events. And physical events, according to the closure premise mentioned above, are such that physical properties are causally efficacious for their production. But then if panpsychism is true, psychological properties of α are not causally efficacious—for if they were they would have to be so in addition to physical properties, and this is something ruled out by the exclusion premise. To adapt a phrase of Mark Johnston's we face a mind-body problem at the fundamental level, a problem that looks in essence the same as the problem we originally faced at the non-fundamental level.⁶

Taken individually these three problems (hereafter, BP1-3) present major challenges to panpsychism. But it is perhaps taken collectively that they have most force. What we wanted was a theory that avoided the problems of standard dualism and standard materialism. But what we have is a theory that faces both problems (suitably adjusted) and in addition provokes an incredulous stare.

Unimaginable Properties

How might the panpsychist respond to these problems? Of course there are a number of possible avenues to consider; however, *if* one's concern is with the comparison between panpsychism and non-standard materialism, perhaps the most obvious thing to do here is to point out that we have so far operated with a somewhat limited idea of what a non-standard psychological property is. Such properties are non-standard, we said, only in so far as they have non-standard bearers. But it is open to the panpsychist to insist that, while they may be non-standard in this limited sense, they are also non-standard in a more dramatic way as well; indeed, it is open to them to suppose that these properties are quite unimaginable for us. After all, it is not implausible that other creatures instantiate psychological states that are unimaginable for us; so too, one might say for the psychological properties, if any, that are instantiated by electrons.

This 'unimaginable property' reply is, I think, most plausible when it is focused on BP1 and BP2; so let us concentrate on them first. As regards BP1, the panpsychist can say that while it may be offensive to common sense to say that electrons think and feel in ways familiar to us, it is not offensive to common sense (for example, because common sense has no view on the matter) that they think and feel in ways that are unimaginable to us. As regards P2, if non-standard psychological properties had by the bearers of fundamental properties are unimaginable to us, then it is possible for the panpsychist to respond to the conceivability argument in the same way as the non-standard materialist. In particular (they might say) it is not possible for us to conceive (in the

⁶ Cf. Mark Johnston 1996, 219: "a mind-body problem at the surface of objects".

relevant sense) a situation in which they along with other properties are instantiated and yet standard psychological properties are not.

Essential Features of Psychological Properties

The unimaginable properties response is attractive on the surface, but it also faces two objections. The first starts from the point that, while it may be true that there are psychological properties unimaginable to us, it is also true that psychological properties, whether imaginable or not, have certain essential features. Moreover, when we focus on these features, what emerges is that they themselves are sufficient to generate BP1 and BP2. Hence the possibility of unimaginable properties does not alter the dialectical situation.

What are these essential features of psychological properties? One good candidate here is that psychological properties essentially consist in (or at least partially consist in) awareness of properties.⁷ For example, feeling a pain in your toe is or entails being aware of some property or properties that your toe apparently instantiates. Likewise seeing a lemon is or entails being aware of certain properties that the lemon apparently instantiates, e.g. its colour, shape or position. On the assumption that these examples are typical, it is an essential feature of any phenomenal property that it consists in awareness of a property.

However, if this is an essential feature of any phenomenal property, the unimaginable property reply to PB1 and PB2 is no good. To see this, consider again BP1. If any phenomenal property essentially involves being aware of some property, then panpsychism is committed to the view that electrons and other bearers of fundamental properties are themselves aware of various properties. But this idea will surely provoke an incredulous stare just as much as the original suggestion that electrons think and feel in the way that we do. And here of course, it makes no difference that we cannot imagine what these states of awareness are like.

Or consider again BP2, the problem that panpsychism faces an argument analogous to the original conceivability argument against standard materialism. The reply we formulated before to this analogous argument is that if non-standard psychological properties are unimaginable, what this argument claims to be conceivable is not so, or anyway is not in the relevant sense. But the problem with this reply is that, if any non-standard psychological properties, imaginable or not, consist in awareness of properties, it is hard to argue that the relevant claim is *not* conceivable. For

⁷ Might there be other candidate features? One possibility is that phenomenal properties are essentially systemic or holistic, i.e. if you instantiate one of them you instantiate a whole system of them. So when you feel a pain in your toe, you are aware of various different properties of your leg and indeed of your surrounds. A different possibility is that phenomenal properties essentially play rational roles, for example, in that being in the property justifies you in believing certain things—e.g. if the property is being aware of F, then being in it justifies you in believing something is F. It would be interesting to develop the point against the unimaginable properties focusing on these features, but I will concentrate here on the feature mentioned in the text.

it is certainly does seem conceivable both that all the bearers of fundamental properties are aware of certain properties, then the non-fundamental objects which are composed of these bearers—objects such as people and animals—are not themselves aware of anything; at any rate, from the fact that the parts of a thing are aware of something, it scarcely follows that the complex made out of those things is likewise aware of some other property. And if that is so, appealing to unimaginable properties does not after all provide the panpsychist with the materials to respond to BP2.

The Threat of Collapse

A panpsychism might respond to this objection by denying that psychological properties have the essential feature we have been looking at; at the limit, they might even say that phenomenal properties have no essential features at all. However, any move of this sort leads only to second objection to the unimaginable properties reply.

The second objection is that is that the unimaginable properties reply threatens to remove the difference between panpsychism and non-standard materialism. After all, if we literally know nothing about non-standard psychological properties, it is hard to see why they should be called ‘psychological properties’ in the first place. And if they are not psychological properties, then this ‘panpsychist’ position stands revealed as no different to non-standard materialism.

One might object that, as far as the threat of collapse goes, the panpsychist and the non-standard materialist are in the same boat. After all, if we literally know nothing about non-standard physical properties, it is hard to see why they should be called ‘physical properties’ either. However, while this is certainly a natural line of thought, it remains the case that the issue of collapse causes more trouble for the panpsychist than for the non-standard materialist, for two main reasons. First, the non-standard materialist begins from the claim that there are non-standard physical properties whose nature we do not know; that is the initial and defining claim of the position. But the panpsychist by contrast does not start from this position; rather it is forced on them when the most obvious way to spell out the view becomes untenable. Second, the idea that there are physical properties whose nature is completely unknown to us is relatively easily tolerated by our contemporary understanding of a physical property in a way that the analogous claim is not tolerated by our understanding of a mental property. According to our contemporary understanding of a physical property, a physical property (very roughly) is either a property distinctive of ordinary physical objects or else is a property that explains the properties distinctive of ordinary physical objects. The second clause here is forced on us by empirical developments, and in particular by the fact that contemporary physics talks about properties quite distinct from the distinctive properties of ordinary physical objects. But in view of this second clause, our understanding of the physical is

very open-ended. Hence while we might be able to say in the case of mental properties that they have various essential features, this is not at all clear in the case of physical properties.

A Mind-Body Problem at the Fundamental Level

I have been looking at the first two problems of the three set out earlier, BP1 and BP2. What now of BP3, the objection that the panpsychist faces the **integration** problem just as the standard dualist does?

In this case the most promising avenue is for the panpsychist to adopt a Russellian version of panpsychism. As we saw above, a Russellian version of non-standard materialism holds (a) that standard physical properties are dispositional or structural properties, and, (b) that non-standard physical properties are the non-dispositional or non-structural properties that ground standard physical properties. A Russellian version of panpsychism agrees with this with the exception that it is non-standard psychological properties, rather than non-standard physical properties, that ground standard physical properties.⁸

How does a position of this sort answer B3? Well consider again the second premise of the exclusion argument, namely, that if some property F is causally efficacious in the production of an event, then no property metaphysically distinct from F is also causally efficacious in the production of that event. However exactly this premise is to be interpreted, one might argue that it should not apply in the case of structural or dispositional properties and the non-structural or non-dispositional properties that ground them. After all, if the solubility of a tablet may cause the water you put it in to fizz, so too does its chemical composition. In this case it seems mistaken to view the chemical composition as being in competition with the solubility. If so, it would appear that a Russellian version of panpsychism can withstand the exclusion argument, even when that argument is targeted at the fundamental level rather than the non-fundamental level.

Essential Features Again

Earlier we noted that it is possible to be a non-standard dualist but not a panpsychist; what we have just noted is that it is possible to be a panpsychist but not Russellian panpsychist. On the other hand, it appears that when faced with BP3, the best thing for the non-standard dualist to do is to become

⁸ There are some complications for the Russellian panpsychist here which concern the classification of dispositional physical properties, which the position assumes to be standard physical properties. Are these properties fundamental? If you say yes, you are committed to the view that fundamental properties can be grounded in other fundamental properties, which is something Lewis, whose views about fundamental properties was our starting **point** would have denied. If you say no, you are committed to the view that the only fundamental properties are phenomenal, which looks more like idealism than panpsychism. I will not try to clear up this complication here, however.

both a panpsychist and a Russellian panpsychist. It is for this reason that this is the most common form of non-standard dualism.

However, while this may be the best thing to do in the face of BP3, it too has a downside, and the problem again has to do with the essential features of psychological properties. For suppose that the psychological properties in question consist in being aware of some properties. Then what is being claimed of fundamental objects such as electrons is not merely that they are aware of various properties, but that they play their normal physical roles in virtue of being aware of various properties. But it seems to be quite unobvious why this should be so. Suppose, for example that some electron has rest mass, and in consequence is disposed to exert gravitational attraction on other elementary particles. Off hand it is reasonable to ask what it is about the electron that grounds its ability to do this. According to the Russellian panpsychist the answer is that that the electron is aware of certain properties. But this I think is an extremely peculiar answer. For one thing, that you are aware of a property does not usually make you attractive to others! More generally, there seems no reason at all why the fact (assuming it to be a fact) that the electron is aware of something should make it have the dispositions electrons do when they have rest mass.

Does Non-standard Materialism Face These Problems?

I have been suggesting that BP1-3 present difficulties for panpsychism that are very considerable indeed. But at this point one might wonder whether non-standard materialism faces the same problems, perhaps suitably adjusted. If that were the case, nothing we have said constitutes a reason to favour non-standard materialism over panpsychism.

However, I think it is clear that this is not the case. Consider BP1, the incredulous stare. The non-standard materialist does not face this problem. For saying that there are fundamental properties whose nature we do not know is one thing, saying that there every bearer of a fundamental property instantiates a psychological fundamental property is quite another.

Consider BP1, the panpsychism faces a conceivability argument that is very similar to the one faced by standard materialism. The non-standard materialist does not face this problem. For suppose we formulate a third conceivability argument, similar to the two already on the table; according to this argument, it is conceivable, and so possible, that there is a possible world identical to the actual world in respect of fundamental standard and non-standard physical properties and, and yet different from it in terms of the nature and distribution of certain standard psychological properties, in particular those associated with phenomenal consciousness. This argument is unpersuasive and the reason is the one noted above, viz., that while we can describe these non-standard physical properties, we don't know what they are. Notoriously, the notion of 'conceivability' that is in operation in these arguments is epistemically demanding: you cannot

conceive a situation in which various properties are instantiated unless you know, at least, in outline what those properties are. Since we don't know what they are can't conceive of them in the way required by a conceivability argument.

Finally, consider BP3, the mind-body problem at the fundamental level. The non-standard materialist does not face this problem. For the non-standard materialist who is a Russellian, there is the same reply as the one I considered above, but in this case there is no problem of the sort I described. And for the non-standard materialist who is a Nagelian, there is every reason to reject the closure premise when it is formulated in terms of standard physical properties, and so the exclusion argument has no purchase. Admittedly it remains the case that for the non-standard materialist there is some story to be told about the integration of the standard physical properties and non-standard physical properties. But this is conceived of by the non-standard materialist as standard a case of integration in science, someone like the integration of gravity and electromagnetism. We may have no idea now how the story goes, and, human life being what it is, we may never have much of an idea. But there is no reason in principle that the problem cannot be solved.

Other Problems for Non-standard Materialism

Even if it does not face BP1-3, the non-standard materialism faces problems of its own. I have **tried** **to** respond to these problem elsewhere, and will not try to provide a comprehensive treatment here.⁹ However, *if* our concern is with the contrast between panpsychism and non-standard materialism, two problems are perhaps most prominent.

First, the panpsychist might object that claims about unknown properties do not alter the dialectical situation: "Unknown properties bear deep theoretical similarities to the properties we already know about and so the dualism-materialism issue will persist in a recognizable form." But this view hasn't fully absorbed the key point of non-standard materialism. The whole idea of that view that the known is no guide to the unknown and so there is no deep theoretical similarity here. You can deny that if you like but doing so is just to deny the non-standard materialism without offering an argument for doing so. Alternatively one might try to support this idea by appealing to the conceivability argument. But as we have seen that style of argument is no good against the non-standard materialist.

Second, the panpsychist might object (in an exasperated tone of voice) that speculations about unknown properties are useless: "Surely we are interested ultimately in building a theory and building theories requires known parts to build them from." But this objection confuses different

⁹ See e.g. Stoljar 2006.

questions you could ask about consciousness. True, if you want to know *exactly* what the relation is between physical and phenomenal properties, non-standard materialism is no help; indeed, the view itself predicts that you can't (now) answer that question. But many of the most interesting questions about consciousness can be pursued without answering that question. What is it that makes a mental state conscious? Are you always aware of your conscious states? How do those states interact with other psychological features? How do they evolve over time? What is their epistemological and rational role? In what ways, if any, are they valuable? What neural and computational structures are associated with them? There is nothing in non-standard materialism that says you can't answer these questions. On the contrary, they have often seemed so hard precisely because they are entangled with metaphysical debates about dualism and materialism. If we get over that debate in the way the new model suggests, we will be likely to make more progress not less on these very real questions about consciousness.

Indeed, at this point we **can** make a more general remark about the comparison between non-standard materialism and panpsychism, and the way in which they depart from the standard views we began with. An important feature of standard materialism is that it is, as Frank Jackson once pointed out, excessively optimistic: "it is not sufficiently appreciated that physicalism is an extremely optimistic view of our epistemic powers. If it is true...in principle we have it all" (Jackson 1982, 135). The same **this** true of standard dualism **since** even if standard psychological properties are an exception to materialism, they are not an exception to an extremely optimistic view of our powers, **since** the dualist typically supposes that the subjects who are in these states know what they are in what Lewis later called an "uncommonly demanding sense" (see Lewis 1995).

Now both panpsychism and non-standard materialism depart from these standard views as we have seen. But do they also depart from excessive optimism? In the case of **non-standard** materialist, it is clear that it does. That view is designed to emphasize the limitations of our knowledge of nature; indeed, it is plausible also that this feature of the view is precisely what prompts the two objections just considered and what permits it to respond to those objections in the way that it does. In the case of panpsychism, however, it is clear it does not. Just as it is not sufficiently appreciated that physicalism is an extremely optimistic view of our epistemic powers, so too is it not appreciated in the case of panpsychism. Panpsychists present themselves as radical, and are sometimes dismissed for that reason. But from the point of view of non-standard materialism, the key feature of panpsychism is not that it is too radical (though it may be) but that it is too conservative. What we need are unknown elements, the non-standard materialist says, not non-standard arrangements of known ones.

Russellian Non-standard Materialism Versus Russellian Panpsychism

I have argued that non-standard materialism is distinct from, and more plausible than, panpsychism. Let me turn finally to a question that has been in the background all along but has not **be** brought to the surface, viz., if they are distinct, why are non-standard materialism and panpsychism so often assimilated?

I think the answer to this is **these** views look similar only if we focus on their Russellian incarnations. As we have seen, both views can be presented in Russellian form, and if they are presented in this way, it is plausible that they are structurally equivalent—that is, they have exactly the same consequences for which structural or dispositional properties are instantiated. Hence if one counts theories by whether they are structurally equivalent, one will be inclined to think that we have one theory here rather than two.

However, it is a mistake to think that theories that are structurally equivalent in this sense are equivalent *simpliciter*. First, it remains the case both that there are non-Russellian versions of these views and these non-Russellian versions are very different from each other. For example, Russellian versions of panpsychism **is** akin to the non-Russellian versions of panpsychism; we miss this fact if we concentrate simply on the Russellian version of the view.

Second, while the Russellian versions of non-standard materialism and panpsychism are structurally equivalent, there are many other theories that likewise have Russellian versions, and these other theories are naturally thought of as distinct from either non-standard materialism or panpsychism. Take the view, advocated at one time by D.M. Armstrong, that colours are the non-structural properties that fundamental objects instantiate (see Armstrong 1961; see also Chalmers forthcoming). This view might be thought of as a sort of pan-colour-ism. The Russellian version of this view is likewise structurally equivalent to the Russellian version of panpsychism and non-standard materialism. But we would not think on that ground that it is the same view.

Conclusion

The results of our comparison of non-standard materialism and panpsychism may now be summarized briefly. (a) Both theories are well motivated in that both are responses to well-known problems with the standard versions of dualism and materialism. (b) Panpsychism faces three big problems that non-standard materialism does not. (c) An initially promising way the panpsychist has to respond to the first two of these problems is confounded by the point that phenomenal properties have essential features, e.g., that they consist in awareness of properties, and moreover threatens to collapse panpsychism into non-standard materialism. (d) An initially promising way the panpsychist has to respond to the third of these problems is also confounded by the point that phenomenal properties have essential features. (e) Non-standard materialism faces problems of its

own but on reflection these problems are much less serious than those faced by the panpsychist, in part because they are generated by precisely the sort of optimism that non-standard materialists are trying to reject. Finally, (f) while it may be true that Russellian versions of panpsychism and non-standard materialism are structurally equivalent, that is no reason to think they are equivalent *simpliciter*.

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