

The Body of the Mind-Body Problem

Barbara MONTERO*

The mind-body problem is often described as the problem of explaining how the mind fits into the physical world. More generally, it is the problem of explaining the relationship between physical properties and mental properties. Without a doubt, it is a problem that piques the interests of professional philosophers and laymen alike. For it seems that everyone wants to know whether the mind is physical. But what would it mean if the mind were physical? What would it mean if it were not? In other words, Just what does it mean to be physical? This is the question I call the “body problem.” And it seems that solving it is central to understanding the current debate over the mind-body problem.

As I see it, there is little use in discussing whether mental properties are physical properties unless we have at least some understanding of what it means to be physical. But while bookstores and journals are overflowing with debates about whether consciousness is physical, hardly anyone is concerned with “What counts as physical?”⁽¹⁾ Moreover, it would not be much of an exaggeration to say today, as John Earman did more than twenty years ago, that “attempts to answer this question that have appeared in the philosophical literature are for the most part notable only for their glaring inadequacies.”⁽²⁾ Clearly something is amiss: if we want to discuss whether the mind is physical, we should clarify our notion of physical.

Some may argue, however, that such clarification is unnecessary. They may point out that while we cannot provide necessary and sufficient conditions for *tablehood*, we nonetheless understand the concept because we can readily identify things that are clearly tables as well as things that are clearly not. And this, they claim, is also true of our notion of the physical.⁽³⁾ But the situations, I think, are

*University of Chicago

⁽¹⁾ Addressing this question is unusual, but not entirely unheard of. See, for example, Meehl and Sellars (1956), Smart (1978), Sellars (1981), Hellman (1985), Stround (1987), Snowdon (1989), Crane and Mellor (1990), Poland (1994), Chomsky (1995), van Fraassen (1996), and Melnyk (1997).

⁽²⁾ Earman (1975) p. 566.

⁽³⁾ Perhaps the mere ability to identify cases that clearly belong on each side of the divide does not necessarily indicate understanding of a concept, or of least of certain rather odd concepts like *being either an ugly painting or a table*. For one might be able to readily identify cases that clearly fall within the concept (e.g. tables) and cases that clearly fall outside (e.g. ducks, snow, pumpkins etc.). Yet one might still not understand the concept because one doesn't understand the notion of an ugly painting. However, I take it that with more straightforward concepts, readily

not analogous. While there appears to be something correct about the claim that we can identify central cases of being physical — what could better exemplify the physical than things like rocks and trees (except, perhaps, quarks and leptons) ? — there is an extra wrinkle: rocks and trees (as well as quarks and leptons) are identified as central cases only on the assumption that idealism is false.⁽⁴⁾ Even ignoring this, it seems that one needs to say at least something about how we are to determine what we can place in the category along with rocks and trees.⁽⁵⁾ Because in certain ways, beliefs and desires *are* like rocks and trees while quarks and leptons are not. For example, talk of beliefs and desires plays a role in our ordinary folk understanding of the world while talk of quarks and leptons does not. Beliefs and desires also seem to be part of the same macro-level causal network as rocks and trees while quarks and leptons do not. But few physicalists think that from our central examples of physical objects we should infer that quarks and leptons are non-physical.⁽⁶⁾

Perhaps these problems could be overlooked if we had clear intuitions regarding the nonphysical. However, it is not at all obvious that we do. The stock example of a nonphysical entity is some sort of ghost. For example, Jaegwon Kim defines “ontological physicalism” as the view that “there are no nonphysical residues (e.g. Cartesian souls, entelechies, and the like).”⁽⁷⁾ And Jeffrey Poland states that the physicalist’s bottom line is really: “There are no ghosts !”⁽⁸⁾ But what exactly is it about a ghost that is supposed to be nonphysical ? Is it that they can pass through walls without disturbing them ? Neutrinos, I am told, can pass right through the

identifying cases on each side of the divide often does show we understand the concept. Moreover, with regard to our notion of the physical, Snowdon (1989) has argued that even less is required: that in order to understand what it is to be physical, we need only have a solid grasp of the central cases. This may be so, but the problem is that we seem to not even have that.

- ⁽⁴⁾ Of course, idealists still make a distinction between things like tables and chairs on the one hand and a person’s ideas on the other and may still call tables and chairs physical objects. However, physicalists, I take it, wouldn’t want anything to do with the idealist’s tables and chairs even if they are, for the idealist, physical.
- ⁽⁵⁾ Some might also want to cite brains, along with rocks and trees, as central cases of physical things. Others, however, who hold that brains have mental properties, might be more wary and take brains to be physical only if their properties reduce or are determined by microphysical properties.
- ⁽⁶⁾ Whether one starts off talking about objects, properties, or terms, the problems I discuss remain more or less the same. For an argument that the place to start is with objects, see Snowdon (1989) ; for an argument that the place to start is with terms, see Poland (1994).
- ⁽⁷⁾ Kim (1997).
- ⁽⁸⁾ Poland (1994, p. 15). He emphasizes this point again later: “ghosts, gods, and the paranormal are genuine threats to physicalism” (p. 228). That is, according to Poland, if ghosts were to exist, physicalism would be false.

earth without disturbing it, yet neutrinos are classified as physical. Is it that they have no mass? Photons have no mass yet are considered physical. Perhaps it is that they supposedly do not take up space. But if taking up no space shows that something is nonphysical, point particles (if they in fact exist) would have to be classified as nonphysical. Yet physicalists, I take it, would see this as a mistake. So to say that the physical means something like “no spooky stuff” does not help matters in the least.

One might think that physicalism at least excludes the possibility of a ghost in a machine, that is, the view that there is some type of mental substance, a substance completely different in kind from physical substance. But since most physicalists are happy to admit that there is more than one kind of elementary particle, what does this view amount to?⁽⁹⁾ Perhaps the idea is that whether or not there is only one kind of basic particle, say, strings, or it turns out that in addition to strings there are also Ferris wheels, physicalism is the view that everything nonbasic is composed of the same kind, or kinds of basic particles. But this cannot be quite right either. For example, it seems that there is some evidence that what physicists call “dark matter” is composed entirely of axions, hypothetical new elementary particles.⁽¹⁰⁾ Yet dark matter is no threat to physicalism. So it seems that the simple notion of *stuff of a different kind* does not in fact, provide us with a notion of the nonphysical. But what, then, does?⁽¹¹⁾

I think it is safe to say that philosophers commonly answer this question by

⁽⁹⁾ Strawson (1994, p. 44) remarks on this fact and then adopts a version of monism similar the one I will proceed to address.

⁽¹⁰⁾ See Rosenberg (1995).

⁽¹¹⁾ Some dualists may hold that to be physical is to exist in space-time and that mind is not physical because it exists only in time. This approach at dividing things up, however, has the unhappy consequence that space-time itself, since it does not exist in space-time, is nonphysical, and it also goes against our current understanding of space-time which has it that anything that exists in time, also exists in space. John Foster suggested to me in conversation that the first problem is avoidable by holding that to be physical is either to exist in space-time or to be the whole of space-time (thought, to avoid similar objections we should substitute “any subset of space-time” for “the whole of space-time.”) And perhaps we can soften the second problem by alluding to the fact that our current view of space-time is probably not the final word. (Armstrong (1995) thinks that space-time is here to stay. My physicist friends, however, tell me that giving up space-time is not entirely outside the realm of possibility.) But now, it seems to me, for the purposes of grounding the mind body-problem we have an even worse problem: What side should be given claim to the things or events that are in time but not in space? It seems that if we allow for the possibility that our current scientific theory of space-time might be overthrown and replaced by one that allows for phenomena that are temporal but not spatial, the physicalist will, no doubt, want to claim that these phenomena belong in his domain. Yet the dualist was the one who claimed that the mind was temporal but not spatial.

deferring to the physicists. At its simplest, the physical is said to be whatever the physicist, or more precisely, the particle physicist, tells us exists (what we might now think of as quarks and leptons, as well as the exchange particles, gluons, gravitons, etc.). And the nonphysical is everything else, if there is anything else.⁽¹²⁾ On this view physicalists — that is, those who hold that everything is physical — are committed to the claim that physics provides us with an exhaustive and exclusive line to all of reality.⁽¹³⁾ Now, this is a relatively straightforward answer to the body problem. However, as stated, it is a bit too simple since most philosophers take it that things like rocks, tables, and chairs are just as physical as quarks, leptons, and gluons.

To be sure, whether it is acceptable to say that the physical is nothing but what the physicists take to be fundamental is partially a terminological issue. I was present at a seminar once where a debate erupted about whether rocks are physical, with the professor insisting that no matter what else is true, rocks are physical, while the student kept replying that rocks are clearly not physical. What was going on, though I'm not sure if either ever made his position clear to the other, was that the student was using the term "physical" to refer to the fundamental entities of physics while the professor was using the term broadly. But while the question of whether to reserve the name "physical" for just the fundamental constituents is merely terminological, the question of exactly how many layers of reality to countenance is not. Since most physicalists want to allow for not only the smallest stuff, but for the atoms, molecules, rocks, and galaxies as well, the leave-it-to-the-physicists approach is usually amended to the view that the physical world is the world of the fundamental particles, forces, laws, etc. *as well as* whatever depends, in some significant sense, upon this fundamental stuff.⁽¹⁴⁾ As such, we can allow at least for the possibility that rocks are physical.

There have been many interesting discussions of how to cash out this significant sense of dependence. However, my concern is not with the dependence relation *per*

⁽¹²⁾ At times, I will specifically use the term "microphysics" rather than physics. However, as is common in the literature, I will also use "physics" in lieu of "microphysics", though strictly speaking, I will mean the latter.

⁽¹³⁾ Jackson (1993) refers to this view as the "nothing butery" view (i.e. nothing *but* fundamental particles).

⁽¹⁴⁾ See Kim (forthcoming) for a succinct description of what he calls the multilayered view. And for more detailed accounts see Wimsatt (1976) and (1994). In conversation Wimsatt has suggested that perhaps the physical ought to be defined relative to a level of organization. This suggestion certainly has some merit since, for example, what might be an acceptable property at the subatomic level, such as, not having a specific spatial location, might be unacceptable at the macrolevel. I imagine, however, that since what we take to be acceptable at each level is in flux (more at the subatomic level, than at the macro level), it would be quite difficult to explain what, in fact, is acceptable relative to a level.

se, but with what everything is being related to : the lower level dependence base or what is often referred to as “the microphysical.” One naturally thinks of microphysical phenomena as the phenomena described by the most recent microphysics. But if the physical is defined over current microphysics, and a new particle is discovered next week, this particle will not be physical — a consequence most philosophers want to avoid.⁽¹⁵⁾ But if not current microphysics, what else could the microphysical be ?

Almost twenty years ago, Carl Hempel posed a dilemma for those attempting to define the physical in reference to microphysics.⁽¹⁶⁾ On the one hand, it seems that we cannot define the physical in terms of current microphysics since today’s microphysics is probably neither entirely true (some of our theories may look as wrong-headed to future generations as phlogiston theory looks to us now) nor complete (there is still more to explain).⁽¹⁷⁾ Yet on the other hand, if we take microphysics to be some future unspecified theory, the claim that the mind is physical is extremely vague since we currently have no idea of what the theory is.⁽¹⁸⁾ Faced with this dilemma, what is a physicalist to do ?

Some try to take the middle road, explaining what they mean by “microphysical” by referring to “something like current microphysics — but just improved.”⁽¹⁹⁾ But in what respect is this microphysics like current microphysics ? And in what respect is it improved ? Since these questions are usually not addressed (save, of course, for the implication that it is similar enough to be intelligible yet different enough to be true) it seems that Hempel’s dilemma recurs for these compromise views.⁽²⁰⁾ For it is very likely that if the theory in question is significantly similar to current physics it will be false ; but if we give up on significant similarity, we give up on having a clear notion of the physical.

Most physicalists, however, simply accept the second horn of the dilemma. That is, they define the physical in relation to future microphysics and ignore the unseemly consequence that they cannot specify what they are talking about. Yet there are philosophers who see this horn as more treacherous than the first. For

⁽¹⁵⁾ Melnyk (1997), however, adopts a version of physicalism that does have this consequence. (See, specifically, his footnote 21.)

⁽¹⁶⁾ See Hempel (1980). Also see Hempel (1969). I am using different terminology from Hempel, and my emphasis is on the question of whether the mind is physical rather than the question of physicalism in general, but the point is essentially the same.

⁽¹⁷⁾ Even worse, it seems likely that current physics it is inconsistent (and therefore complete for the unsatisfactory reason that from a contradiction, one can prove anything.)

⁽¹⁸⁾ See Hellman (1985) for a discussion of this dilemma.

⁽¹⁹⁾ See for example, David Lewis (1983) and Robert Kirk (1994).

⁽²⁰⁾ Hellman (1985) points this out.

example, Andrew Melnyk argues that while it is in fact very likely that current physics is both false and incomplete, physicalism should still be formulated in terms of current physics.⁽²¹⁾ This doesn't preclude one from being a physicalist because, strange as it may sound, according to Melnyk, one can be a physicalist without believing in physicalism.

On the face of it, this is a rather awkward situation; for as G.E. Moore might have put it, there is something paradoxical about saying "everything is physical, but I don't believe it." So it is not surprising that the bulk of Melnyk's paper is about what sort of attitude, if not belief, a physicalist is to take towards the thesis of physicalism. This attitude, he claims, is analogous to the attitude a scientific realist/antirealist takes towards to hypotheses of science. For the scientific realist/antirealist, according to Melnyk, need not believe her favorite theories, nor even hold them to be more likely true than false; she need merely take them to be better than current and historical rivals.⁽²²⁾

Now, while aligning the attitude of the physicalist with the attitude of the scientist seems to be a good strategy — for in the eyes of the physicalist there is, perhaps, no one more worthy of respect — it is not clear that a physicalist can do without belief. Melnyk claims that *all* a physicalist needs to hold is that the thesis of physicalism is better than rival theories, that is, formulated theories that are "sensibly intended to achieve a significant number of [physicalism's] theoretical goals."⁽²³⁾ But it seems that this does not commit one to accepting physicalism.⁽²⁴⁾ For example, someone might be a realist about free will and also think that Humean

⁽²¹⁾ He follows Hellman (1985) who also explicitly takes on the first horn of Hempel's dilemma. Smart (1978) defines the physical over current physics, but does not think that this probably makes physicalism false. He argues that for the purposes of the mind-body problem, current physics is good enough since the principles relevant to understanding the mind are principles of "ordinary matter" (for example, principles relevant to understanding neurons) and that these principles will most likely not be overthrown. This suggestion does, I think, present a relatively clear position, however it does not provide us with an understanding of the physical that all physicalists would find tenable. For not all physicalists agree that the relevant level of understanding the mind is at the level of "ordinary matter." And in this sense, Smart's proposal does not fulfill David Lewis' requirement that physicalism should be a view that motivates the various physicalist theories about the mind rather than a specific theory itself. (See Lewis 1983, p. 361.) Nevertheless, Smart's position may indicate that questions about the mind will be clearer if they are formulated in more specific terms.

⁽²²⁾ A theory's rivals, he says, must 1) intend to achieve a significant number of the goals of the theory, 2) not supervene on the theory nor should the theory on it, and 3) be formulated.

⁽²³⁾ Melnyk (1997) p. 626.

⁽²⁴⁾ In a footnote Melnyk addresses this sort of objection, saying that he doubts that it describes any actual situations (p. 631, fn. 17).

compatibilism is better than all other theories, both current and historical, in accounting for free will. Yet she might not be a Humean compatibilist; it is merely that she believes that *all* approaches to solving the problem of free will fail utterly but that Hume's approach just has, say, the fewest contradictions. Similarly, someone might have faith in God yet think that no religion captures what he feels must be true about the world. If asked to rank all the religions, he might put Buddhism at the top of the list even though he does not identify himself as a Buddhist.⁽²⁵⁾ So as I see it, just as holding that Buddhism is better than its rivals does not make one a Buddhist, holding that physicalism is better than its rivals does not make one a physicalist.

Another problem for Melnyk's view is that it is not even clear that Melnyk's version of physicalism actually *is* better than rival theories.⁽²⁶⁾ Melnyk defines physicalism as the view that everything either is itself or is constituted by the entities or properties mentioned (as such) in current physics. Now, is this our best account, of, as it were, *everything*? Some would certainly hold that a preferable theory is the theory that everything either is or is constituted by what microphysics twenty years hence says there is. But since Melnyk holds that rival theories need to be formulated and also holds that theories such as the one just mentioned are not (yet) formulated, he does not count it as a rival theory. However, in ruling out theories that are not formulated Melnyk, rather than arguing for accepting the first horn of Hempel's dilemma, is, in effect, begging the question in favor of it.⁽²⁷⁾

It seems that taking on the first horn of Hempel's dilemma, that is, defining the physical in terms of current microphysics, does not provide us with a very comfortable solution to the body problem. But does taking on the second horn fare any better? David Armstrong certainly thinks so. For he explicitly tells us that

⁽²⁵⁾ Buddhism may not be the best example here. A Buddhist friend of mine has told me that, actually, everyone is a Buddhist whether they know it or not. If this is correct, please substitute "Calvinism" for "Buddhism" in the above.

⁽²⁶⁾ Melnyk, of course, thinks that his version of physicalism is better than rival theories (see p. 632-37).

⁽²⁷⁾ Another problem arises for Melnyk's view if we take Wigner's hypothesis as a theory of current physics. Wigner's hypothesis holds that acts of "pure consciousness" are required to explain the collapse of the wave function, in other words, Wigner holds that the consciousness of an observer interacts with the system being measured (which the Schrodinger equation tells us must be in a superposition of states) in such a way as to cause it to collapse into one definite state. Now, since according to Melnyk, anything "mentioned as such in the laws and theories of [current physics]" is physical, it follows directly that mental properties are physical (that is, if we take Wigner's hypothesis as a theory of current physics). Of course, Melnyk might accept the consequence. However, Wigner's hypothesis is usually dubbed "dualistic." Similarly, if we take the dependence base to be all branches of today's physics, not just microphysics, some interpretations of the anthropic principle may lead to the same conclusion.

when he says “physical properties” he is not talking about the properties specified by current physics, but rather “whatever set of properties the physicist in the end will appeal to.”⁽²⁸⁾ Similarly, Frank Jackson holds that the physical facts encompass “everything in a completed physics, chemistry, and neurophysiology, and all there is to know about the causal and relational facts consequent upon all this.”⁽²⁹⁾ And even if it is not explicit, it seems that, as Barry Loewer puts it, “what many have on their minds when they speak of fundamental physical properties is that they are the properties expressed by simple predicates of the true comprehensive fundamental physical theory.”⁽³⁰⁾ So for Armstrong and others the physical is defined over a completed physics, a physics in the end. But what is this? The answer, as Hempel has pointed out, is that we have no idea.

Basing one's notion of the physical on an unfathomable theory seems to be a serious problem, and one might think it is ammunition enough to discourage defining the physical over “physics in the end.” But the truth is, most seem content to ignore this problem and charge ahead to the more juicy questions, such as whether knowledge of all the physical facts, (whatever they happen to be) enables Mary to know what it is like to see red. So perhaps we need more ammunition. Another consequence of using the notion of a completed physics to explain the physical is that, at least under a certain interpretation, it seems to trivially exclude the possibility that the mind is not physical. For on one understanding of it, a completed physics amounts to a physics that explains *everything*. So if mentality is a real feature of the world, a completed physics, on this definition, will explain it too. Now, there is nothing wrong with trivial truth *per se*, however, this is not the kind of solution to the mind-body problem that most philosophers would accept.⁽³¹⁾ For neither physicalists nor their foes think that at this time in the debate we already know that the mind is physical simply because this fact follows from the definition of physical.

Of course, physicalism (defined over a theory of everything) would only seem to be trivially true if such a theory is possible.⁽³²⁾ We actually know that we cannot describe a theory of, literally, *everything*: Gödel's theorem tells us that the set of arithmetic truths cannot be enumerated by any computable procedure. Perhaps the

⁽²⁸⁾ Armstrong (1991) p. 186. Of course, not all properties the physicist appeals to are relevant: when a physicist is explaining a proposed budget in a grant application or explaining to her supervisor why she was late to work, she may be appealing to very different properties than when she is applying her mathematical skills in computing a wave function. But perhaps this distinction is intuitive enough.

⁽²⁹⁾ Jackson (1991) p. 291.

⁽³⁰⁾ Loewer (1996) p. 103.

⁽³¹⁾ Crane and Mellor (1990), however, present an exception to this view.

⁽³²⁾ See Redhead (1995) and Weinberg (1992) for interesting discussions of the possibility of a final theory.

final theory need not be a formalizable one ; and perhaps physicalists can somehow exclude the arithmetic truths from the explanandum. But if so, and a final theory is possible, we would be back with a version of physicalism that appears to be trivially true. And, as I said, this is not the kind of solution most philosophers are looking for.⁽³³⁾

Chomsky has identified a related problem for those who define the physical in terms of a final physics. In Chomsky's words, there seems to be no principled "delimitation of 'the physical' that excludes Fregean 'thoughts' in principle, but includes mathematical objects that 'push each other about,' massless particles, curved space-time, infinite one-dimensional strings in 10-dimensional space, and whatever will be contrived tomorrow."⁽³⁴⁾ Put perhaps a bit more bluntly, Chomsky's point is that since we cannot predict the course of physics, we cannot even say with certainty that a final physics will not include mental properties, qua mental, as fundamental properties.⁽³⁵⁾ Yet if this purported final physics takes the mental realm to be fundamental, the significant difference between physicalists (who claim that mental properties will be accounted for in terms of a final physics) and dualists (who claim that the mental properties are fundamental properties) seems to dissolve.

Some physicalists try to avoid this problem by simply excluding mental properties from the dependence base.⁽³⁶⁾ Physics, of course, will proceed as it will proceed regardless of what restrictions philosophers place on its development. However, philosophers can make empirical claims ; and perhaps the claim that this true and complete physics will not invoke mental properties is a perfectly acceptable empirical claim. But if all we say about this final physics is that it is a physics that explains everything yet does not mention mental properties, qua mental properties, then (assuming that such a physics is possible) this physics still, by definition, *explains* everything. And as such, there is no room for debate regarding whether it also explains the mind.

I think it is becoming clear that a solution to the body problem, or at least one that helps us to better understand the mind-body problem, is not forthcoming.⁽³⁷⁾

⁽³³⁾ Crane and Mellor (1990), however, present an exception to this view.

⁽³⁴⁾ Chomsky (1995). Also see Chomsky (1993).

⁽³⁵⁾ See Chomsky (1995) and (1993).

⁽³⁶⁾ See Kirk (1994) p. 78-79 and Papineau (1993) p. 29-32.

⁽³⁷⁾ While the focus of my argument has been on the difficulty of formulating a notion of the physical which is capable of grounding the mind-body problem, I think that some of what I have said may be applicable to questions about physicalism and naturalism outside the scope of philosophy of mind as well. For example, both Mackie (1977) and Harman (1977) have argued for anti-realist conceptions of ethics because, as they see it, moral facts simply would not fit into the natural world as science has revealed it. But unless we have an understanding of what the natural world is, it is difficult to grasp the full import of their arguments.

And what I think this indicates is that perhaps we should focus on questions other than the question "Is the mind physical?" So let me, then, conclude with a suggestion. It seems that physicalism is, at least in part, motivated by the belief that the mental is ultimately non-mental, that is, that mental properties are not fundamental properties, while a central tenet of dualism is, precisely, that they are. So perhaps a question that highlights some of the central concerns of both physicalists and dualists is the question of whether the mental is ultimately non-mental. Of course the notion of the non-mental is also open ended. And, for this reason, it may be just as difficult to see, what sort of considerations are relevant in determining what counts as non-mental as it is to see what sort of considerations are relevant in determining what counts as physical. However, one advantage is that, arguably, we do have a grasp of one side of the divide — that is, the mental side. So, perhaps, rather than worrying about whether the mind is physical, we should be concerned with whether the mind is ultimately non-mental. And this, I should mention, is a concern that has little to do with what current physics, future physics, or a final physics says about the world.⁽³⁸⁾

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