

Ectoplasm Earth

by Justin Tiehen

What does it mean to say that the mental is nothing over and above the physical? In other words: What exactly is the thesis of physicalism about the mental? The question has not received as much focused philosophical attention as it deserves. If that assessment sounds completely wrong to you, it is probably because you are mistaking my restricted thesis of physicalism *about the mental* for the unrestricted thesis of physicalism *simpliciter*. Physicalism simpliciter is the doctrine that everything is physical; equivalently, that there is nothing over and above the physical. Without question, physicalism simpliciter has been the subject of intense philosophical scrutiny. There are ongoing debates over how “the physical” should be defined for the purpose of formulating the thesis, over how the “nothing over and above” clause should be understood, and over various other matters yet.¹

Of course, philosophers discussing the unrestricted thesis of physicalism simpliciter typically do so with a special focus on the mental as opposed to, say, the chemical or the geological. Still, the theses are distinct. Imagine that central state materialism were the correct mind/body theory but that, much to our astonishment, water turns out to be not H₂O but instead the spooky, non-physical stuff ectoplasm. In functional role terms: imagine that further empirical investigation reveals that it is ectoplasm rather than H₂O which occupies the water-role, and so which fills the lakes and

¹ On how to define “the physical” see for instance Hempel (1970), Montero (1999), Gillett and Witmer (2001), Papineau (2002: Ch. 1), Dowell (2006), Wilson (2006), and Worley (2006). On understanding “nothing over and above” see for instance Horgan (1983) and (1993), Lewis (1983), Kim (1998), Wilson (1999) and (2005), Stoljar (2001), and Melnyk (2003). I mention these two debates to the exclusion of others because they are especially relevant – sometimes indirectly – to the arguments below.

rivers, falls from the sky when it rains, quenches our thirst, and so on. Then physicalism about the mental would be true, but physicalism simpliciter would be false: the mental would be nothing over and above the physical, but something would exist over and above the physical.² What exactly is the thesis that would be true in this scenario? That is my question: What is physicalism about the mental?

The discussion is divided into three sections. In §1 I present a content externalist argument showing that the most obvious way of trying to characterize physicalism about the mental does not work. The argument involves a variation on Putnam’s Twin Earth thought experiment, but where instead of Twin Earth we consider the even more exotic locale of Ectoplasm Earth. In §2 I explore the metaphysics of wide mental states to defend a crucial assumption made by the argument in §1. Finally, in §3 I offer my own favored approach to characterizing the thesis of physicalism about the mental, and then use my approach to argue for a certain view of physicalism simpliciter. The question of how to formulate physicalism about the mental is interesting in its own right, but it is also interesting for the light it sheds on how physicalism simpliciter should be formulated.

1.

² Different philosophers think of ectoplasm differently, and the difference matters to my presentation. Some think of it as a non-physical *realizer of functional roles*. So understood, ectoplasm is not inherently mental, but instead is a possible realizer of the mental. This is how I think of ectoplasm in this paper – as a non-physical realizer – except that I focus on worlds where it realizes the water-role instead of any mental-role. Others think of ectoplasm not as a realizer, but rather as a non-physical mental substance which instantiates mental properties in a “basic, non-realized way,” as Levine (online) puts it. So understood, ectoplasm *is* inherently mental, and so if water turned out to be ectoplasm, that would mean that water is somehow mental. It would also mean that at least some portion of the mental – namely, the ectoplasmic, watery portion of it – is something over and above the physical, in which case physicalism about the mental is not generally true after all.

How one conceives of ectoplasm is not just a matter of personal taste, but rather connects to substantive underlying issues. By taking ectoplasm to be a non-physical but also not inherently mental realizer of functional roles, I am in effect committed to rejecting via negativa characterizations which seek to define “the physical” simply as the non-mental. Now, I think the via negativa approach should be rejected, but I wouldn’t want my claims in this paper to turn on the point. And they don’t. See n. 5 below for a way of recasting my central argument in a way that does not require the non-physical realizer conception of ectoplasm, and thus which is compatible with the via negativa approach.

Here is a natural thought. If you want to formulate physicalism about the mental, start with the canonical formulation of physicalism simpliciter, whatever it happens to be exactly. Presumably it will involve some sort of unrestricted universal quantification, since physicalism simpliciter is intuitively understood as the thesis that *everything* is physical.³ Take the given universal quantifier and restrict its domain from everything to just the mental. The resulting proposition is the thesis of physicalism about the mental. So, for instance, if physicalism simpliciter is best formulated as the thesis that everything supervenes on the physical, then physicalism about the mental should be formulated as the thesis that the mental supervenes on the physical. If physicalism simpliciter is best formulated as the thesis that everything is physical or physically realized, then physicalism about the mental should be formulated as the thesis that the mental is physical or physically realized. And so on. Call this the *straightforward approach* to formulating physicalism about the mental.

Ultimately I will defend a version of this straightforward approach. Presently, though, I am going to argue that the straightforward approach cannot work if it is assumed that physicalism simpliciter is best formulated in terms of some relation at least as strong as supervenience. This assumption is very widely accepted. There are today a number of critics of supervenience-based formulations of physicalism simpliciter, but these critics almost always hold that the problem with such formulations is that supervenience is too weak of a relation. They think that physicalism simpliciter should be formulated in terms of some stronger relation, like realization, which entails

³ Or, at least it will involve relatively unrestricted universal quantification. Melnyk (2003) takes necessarily existing non-causal entities, such as numbers perhaps, to fall outside the scope of physicalism simpliciter. For Melnyk, then, physicalism simpliciter would be better intuitively glossed as the thesis that everything contingent and/or causal is physical.

supervenience.⁴ These critics thus accept the assumption in question. Here is another way to put what I am about to argue. I hope to show that physicalism about the mental is compatible with the complete failure of psychophysical supervenience. If that's right, then physicalism about the mental cannot be formulated in terms of such supervenience, or in terms of any stronger psychophysical relation that entails psychophysical supervenience.

The argument assumes standard mental content externalism. If we wish, we can treat this assumption as purely provisional. Whatever the proper formulation of physicalism about the mental is, it had better be compatible with externalist assumptions, since so many externalists explicitly hold that the mental is nothing over and above the physical. The argument proceeds via Twin Earth-style thought experiment. Suppose that physicalism simpliciter is true here in the actual world, and thus that physicalism about the mental is true here as well. My mind then is nothing over and above the physical. Now, consider a possible world containing a pair of intrinsic physical duplicates of me. One lives on a planet we will call "Ectoplasm Earth," while the other lives on a planet we will call "Twectoplasm Earth." The physical environments of Ectoplasm Earth and Twectoplasm Earth are exactly alike. Where the planets differ is just in their non-physical environments. On Ectoplasm Earth the occupant of the water-role is the spooky non-physical stuff ectoplasm, while on Twectoplasm Earth the occupant of the water-role is the completely distinct but superficially similar non-physical stuff twectoplasm.

For standard Twin Earthian reasons these two intrinsic duplicates will have thoughts differing in their wide contents. For example, one will believe that ecto-water is wet while the other believes that twecto-water is wet. What is novel about the present

⁴ See for instance Horgan (1993), Kim (1998), Wilson (1999) and (2005), and Melnyk (2003).

variation on the familiar theme is that in this case, not only are the duplicates alike in all their intrinsic physical properties, they are also alike in all their extrinsic physical properties. For, by assumption, what distinguishes the external environments of the two duplicates is nothing physical. Rather, the point of distinction is entirely non-physical: one environment contains ectoplasm where the other has twectoplasm. Given that there is a (wide) mental difference between the duplicates without any corresponding physical difference between them – again, not even a difference in their extrinsic physical properties – it follows that mental properties *completely* fail to supervene on physical properties at their world. In typical Twin Earth cases, mental properties fail to supervene on intrinsic physical properties but still supervene on extrinsic physical properties, since there are physical differences between the given twins' environments (e.g., one environment contains the physical stuff H₂O while the other contains the physical stuff XYZ). You have to go all the way to Ectoplasm Earth to get the sort of complete failure of psychophysical supervenience at issue.

Here is how the thought experiment bears on the question of physicalism about the mental. By assumption physicalism about the mental is true here in the actual world, and so my mind is nothing over and above the physical. But then, given that my mind is nothing over and above the physical, it seems extremely compelling to say that my duplicates' minds must not be something over and above the physical either. In support of this claim, I note that my duplicates' minds seem very different from non-physical minds as usually conceived – say, as Cartesian egos or emergent entities. The natural way to mark this difference, it seems to me, is to say that while these other sorts of minds are something over and above the physical, my duplicates' minds are not. Admittedly,

my duplicates are able to *think about* non-physical stuffs in ways I cannot, just as my (standard) Twin Earth twin is able to think about XYZ in ways I cannot. But, this does not make their minds non-physical in any interesting sense.

Or so I claim. §2 is devoted to elaborating and defending this particular move in the argument, but for now I propose that we grant the point in order to get the conclusion out. Granting then that my duplicates' minds are nothing over and above the physical, and given that psychophysical supervenience completely fails at their world, it follows that physicalism about the mental must not require psychophysical supervenience. If this is right, then the straightforward approach of deriving physicalism about the mental from physicalism simpliciter cannot work, as long as it is assumed that physicalism simpliciter is best formulated in terms of some relation at least as strong as supervenience.⁵

2.

Let's now focus on the crucial move in last section's argument. Stated most generally, I claim that the minds of intrinsic duplicates must be alike with respect to their physicalistic acceptability. Since my mind is physicalistically kosher, I argued that my duplicates' minds must be too. The general claim can be stated as a supervenience thesis.

[SV]: Physicalistic acceptability supervenes on intrinsic properties.

⁵ As acknowledged in n. 2, the argument as presented assumes a conception of ectoplasm (and tectoplasm) as a non-physical but not inherently mental realizer of functional roles, which is incompatible with via negativa characterizations of the physical. The assumption is inessential. We can revise the thought experiment by replacing ectoplasm and tectoplasm with ghosts and goblins, understood as non-physical thinking things. Given this setup, my duplicates will again be physically indiscernible while differing in the wide contents of their thoughts – one will believe that ghosts are scary while the other believes that goblins are. On this revision, the minds of ghosts and goblins are admittedly non-physical entities. But what about the minds of my duplicates? As in the unrevised version I claim that their minds are nothing over and above the physical, despite their violation of supervenience.

On the revised version we should not say that physicalism about the mental is generally true in my duplicates' world, given the presence of ghosts and goblins, but we can still say that physicalism about my duplicates' minds is true there: their minds are nothing over and above the physical. What is it that would be true there? What is the thesis of physicalism about particular minds? This would be my question.

There are two questions to consider regarding [SV]. First, is it compatible with the content externalism we are assuming? Second, is it true? Last section's argument plausibly requires an affirmative answer to both these questions.

It may help sharpen our assessment of the issues involved by supposing, purely provisionally, that intentional contents are Russellian propositions – that is, structured entities whose constituents are objects and properties in the world (rather than concepts thereof).⁶ Assuming Russellianism, reconsider my Ectoplasm Earth duplicate. When he believes that ecto-water is wet, the content of his belief has a non-physical constituent: ectoplasm itself. Putting things this way prompts a certain concern. Given that this intentional content has a non-physical constituent, does it not follow that the belief with that content is, in a sense that violates physicalism about the mental, at least *partly non-physical*? If so, then physicalism about the mental is false at my duplicates' world after all, in which case last section's argument fails to establish that physicalism about the mental is compatible with the complete failure of psychophysical supervenience.

Whether this worry is well founded depends on which view of the metaphysics of wide mental states is correct. Following Jaegwon Kim, we can distinguish between three broad types of view.⁷ According to the first, a wide mental state is itself a wholly internal state of its subject – for instance, perhaps a neural state – but one whose intentional content provides a *relational specification* of that wholly internal state. Consider an analogy. Socrates' neural state is wholly internal, but we can make use of his relation to his wife to specify it via the definite description, “the neural state of the husband of Xanthippe.” The relational specification view says that wide intentional

⁶ This assumption is not essential to any of the main arguments presented below.

⁷ Kim (2006: 260-263).

contents specify wholly internal mental states in something like this way, but where the relation exploited by such contents obtains between a subject and his or her environment, such as my Ectoplasm Earth duplicate's causal relation to ectoplasm.

The relational specification of wide mental states view *entails* [SV]. For wide mental states are wholly internal on the view, and so if the wide mental states of one subject are nothing over and above the physical, the wide mental states of anyone intrinsically indiscernible from that subject must also be nothing over and above the physical. What differentiates my Ectoplasm Earth duplicate from me is not that his belief is partly non-physical while mine is wholly physical, but that his belief has a partly non-physical relational specification while mine does not. Reconsider the analogy. Socrates' neural state is not itself partly Xanthippe – whatever that would mean – even though it can be specified relationally in a way that involves reference to Xanthippe. Kim himself favors this sort of view.

The second view says that a wide mental state is not a monadic state with a relational specification, but rather is itself a *relation* between a subject and something external.⁸ For our purposes, we can take this external something to be just the Russellian proposition that is the intentional content of the given wide state. On the relation view, then, my duplicate's belief that ecto-water is wet is a relation between him and a certain entity (the given Russellian proposition) which has ectoplasm as a constituent. It is thus a relation between him and something that is, in some sense, partly non-physical.

The relation view is at least *compatible* with [SV], and it *entails* [SV] on what I regard as its most natural development. A preliminary point to make here is that, in

⁸ Alternatively, a wide mental state could be taken to be a monadic but *relational property* of a subject. I follow Kim in lumping this proposal together with the relation view.

general, even if a relatum of some relation is physicalistically unacceptable, this by itself does not entail that the relation is physicalistically unacceptable as well. Relations typically possess properties their relata lack. A relation can be transitive and symmetrical while its relata are not. The same is true when the property in question is that of being physicalistically acceptable. Suppose that a bit of ectoplasm vibrating stands in the *simultaneous with* relation to the collision of two stars in distant space (an intuitively physical event). The ectoplasm vibrating is physicalistically objectionable, but the simultaneous with relation is not. There are not *two* affronts to physicalistic scruples here: first the vibrating ectoplasm, and second the simultaneous with relation that it enters into with the collision.

The most natural (and perhaps most common) version of the relation view is sketched by Frank Jackson in his relevantly titled paper, “Is Belief an Internal State?”⁹ Jackson takes belief to be a so-called *internal* relation, meaning that it obtains solely by virtue of the intrinsic natures of its relata, and thus is no ontological addition over and above those relata and their internal natures.¹⁰ Starting with this point and building from it, Jackson writes,

Belief is an internal or grounded relation. This is pretty much explicit in all the most plausible accounts of how subjects might be related to propositions in some interesting and relevant-to-belief sense. These accounts all see the proposition believed as in some way ‘measuring’ the subject who believes; something about the proposition captures something about the subject... we are using propositions to capture properties of believers; there is no question of relations to propositions being ungrounded.¹¹

⁹ Jackson (2007).

¹⁰ The terminology of “internal relation” is potentially misleading here since it might suggest a connection with content internalism when in fact there is none. A paradigmatic example of an internal relation Jackson gives is that of being rounder than. If *A* is rounder than *B*, *A* has some shape, *B* has some shape, and *A* being rounder than *B* obtains entirely by virtue of these shapes (intrinsic properties) *A* and *B* have. *A* being rounder than *B* is thus nothing over and above *A* and *B* and their respective shapes. On internal (and external) relations, see for instance Heil (2009).

¹¹ Jackson (2007: 576).

Those properties of believers which propositions capture are, according to Jackson, wholly internal to believers. Meanwhile, the role of the proposition within a belief relation is merely to characterize (or “measure”) such an internal properties. Because propositions play this merely characterizing role within the belief relation, the metaphysical status of the relation is determined entirely by the status of the relevant property of the believer, and *not* by the status of the proposition. If the internal property of the believer is neural, then belief itself counts as a neural state; if it is functional, then belief counts as a functional state; and so on. Most importantly to Jackson in his paper, the property of the believer is clearly internal, and thus belief qualifies as an internal state even though the propositional relatum of the belief relation is, of course, external to the believer.¹² It is in this way that Jackson answers the title question of his paper with a Yes: belief *is* an internal state.

An analogy often used in this context involves numbers. Suppose that having a mass of three grams is to be analyzed as a relation holding between massed objects and the number three. In this relation, the number three plays the role of “measuring” massed objects, as Jackson would put it. Even if we take the number three to be external to massed objects, it still seems appropriate to classify having a mass of three grams as a paradigmatic internal state. Furthermore, I would add, even if we take numbers to be non-physical entities, it still seems appropriate to classify having a mass of three grams as

¹² The issues involved here are independent of content externalism to some extent. As Block (1986: n. 7) observes, even for a standard content internalist, propositions still qualify as being “outside” the head of a believer. Thus, even an internalist will need something like Jackson’s view in order to count a belief as an internal state, given the relation view of propositional attitudes.

a paradigmatic physical state.¹³ Wide mental states are just like this, according to the version of the relation view in question.

This version of the relation view entails [SV]. For, since wide mental states are internal states of a subject, if the wide mental states of one subject are nothing over and above the physical, the wide mental states of anyone intrinsically indiscernible from the subject must be nothing over and above the physical. What differentiates my Ectoplasm Earth duplicate from me is not that his belief is partly non-physical while mine is wholly physical, but that his internal state is characterized by a proposition with a non-physical constituent while mine is not. But, according to the present version of the relation view, what determines the metaphysical status of the belief relation is not the proposition but the internal state of the believer that the proposition characterizes. If this internal state is nothing over and above the physical, as it is in the case of my duplicate, then the belief is nothing over and above the physical.

The third and final metaphysical view says that wide mental states are partly *ontologically constituted* by those environmental factors that determine their contents. For instance, my belief that water is wet contains as a part water itself – the actual wet stuff – while my duplicate’s belief that ecto-water is wet contains as a part ectoplasm. This view is indeed incompatible with last section’s argument, for it entails that my duplicate’s belief is, partly, something over and above the physical. The ontological constitution view thus entails that [SV] is false. Kim dismisses the ontological constitution view as “absurd,”¹⁴ but it has had its supporters. For instance, in spelling

¹³ In connection, see for instance Melnyk (2003: 11), who takes physicalism generally – and, a fortiori, physicalism about having a mass of three grams – to be compatible with a platonic view of numbers as non-physical entities.

¹⁴ Kim (2006: 261).

out a view he calls “strong externalism,” Mark Rowlands attributes the view to Colin McGinn.¹⁵ At a minimum, though, the ontological constitution view is highly controversial, as Rowlands himself acknowledges.¹⁶

Let’s take stock. As I have already indicated, I find it extremely compelling to say that my duplicates’ minds are nothing over and above the physical. I am thus willing to commit myself to some view of wide mental states which entails [SV], either the relational specification view or the version of the relation view defended by Jackson. For the sake of my argument in this paper, though, we can once again treat this commitment as provisional. Since the ontological constitution view is highly controversial (as would be any version of the relation view which fails to entail [SV]), it would be unfortunate if we had to assume its correctness in order to block the challenge posed by Ectoplasm Earth. It would be far better to have a formulation of physicalism about the mental which could handle Ectoplasm Earth even when we assume one of the metaphysical views of wide mental states which entails [SV].

3.

In this final section I will attempt to provide just such a formulation. I take as my inspiration recent attempts to formulate physicalism simpliciter not in terms of supervenience but instead in terms of realization, and especially Andrew Melnyk’s work on this front.¹⁷ In his book *A Physicalist Manifesto*, Melnyk advances an account of

¹⁵ Rowlands (1999: 44-45). McGinn’s view is presented in his (1989).

¹⁶ Rupert (2004: §3) criticizes Rowland’s reading of McGinn. He also distinguishes content externalism from the extended mind hypothesis, as defended by Clark and Chalmers (1998), in a way that is relevant to the present discussion. According to Rupert, externalism differs from the extended mind in that the latter but not the former entails that minds have externally located parts. It is worth noting that in making his case, Rupert assumes the relation view of wide mental states and a Russellian view of content. Thus, Rupert can be used to support our conclusions above regarding the relation view: given Rupert’s view, the relation view of wide mental states does not entail that my duplicate’s belief is partly non-physical.

¹⁷ Melnyk (2003).

physicalism simpliciter, the central idea of which is that all actual tokens (property instances, objects, and events) are either physical in a narrow sense or else physically realized, where the notion of realization is explained by reference to functional types. A type F is functional when it is associated with some condition C such that, necessarily, F is tokened iff there is some token of a distinct type P that meets C. The P-token is then said to *realize* the F-token. Something close to this understanding of realization is of course familiar from standard functionalist approaches in the philosophy of mind, but Melnyk's idea is to generalize the approach to apply to all actually tokened types that aren't narrowly physical (including special science types generally), and then formulate physicalism simpliciter in terms of this generalized conception.

Given this construal of realization, Melnyk initially considers formulating physicalism simpliciter as follows.

[R₀] Every property instance (object, event) is *either* an instance of a physical property (an object of a physical kind, an event of a physical kind) *or* an instance of some functional property (an object of a functional object kind, an event of a functional event kind) that is *realized by* an instance of a physical property (an object of a physical kind, an event of a physical kind).¹⁸

However, Melnyk thinks that [R₀] is insufficient as it stands for the purpose of capturing physicalism simpliciter. The supposed problem is that unless we impose restrictions on the conditions associated with tokened functional types, there is room for a condition which itself would be incompatible with physicalism simpliciter, even while all tokens of the associated functional type count as being realized by the physical. Melnyk explains with the aid of an example:

[C]onsider a token of a functional type whose associated condition is such that the functional type is tokened only if there is a token of some or other type *such that so-and-so conditions obtains...* If the obtaining of these conditions is not itself a

¹⁸ *Op. cit.*, p. 227.

physical or physically realized affair (e.g., perhaps their obtaining requires the presence in Australia of five angels), then the functional token may be realized by an entirely law-abiding token of a physical type, but still fail, intuitively, to be realized by the physical.¹⁹

In response, Melnyk tweaks [R₀] and offers a slightly revised formulation of physicalism simpliciter. Below, I will deny any revision is necessary. First, though, notice that for the purposes of formulating the restricted thesis of physicalism about the mental, the point that is bothering Melnyk about [R₀] would appear to be a feature, not a bug. For, if a realization-based approach to formulating physicalism about the mental is to have any chance at handling the challenge posed by Ectoplasm Earth, it will need to traffic in conditions whose obtaining is not itself a physical or physically realized affair.

To see how this would work, let's take the belief that ecto-water is wet. In accordance with functionalism in the philosophy of mind, suppose we can identify this belief property with the functional type F associated with condition C, which specifies the (wide) causal role characteristic of the belief. Presumably this role will include causal inputs from ectoplasm via perception, and maybe also causal outputs directed at ectoplasm via behavior. If so, then condition C will obtain and F will be tokened only if ectoplasm exists and enters into such causal relations; thus, only if physicalism simpliciter is false. Nevertheless, if a given F-token, like my duplicate's belief, is realized by a token of a physical type, then that F-token will count as being realized by the physical. Since the only candidate realizers of my duplicate's belief are physical tokens,²⁰ it follows that my duplicate's belief counts as being realized by the physical

¹⁹ Melnyk (2003: 23).

²⁰ Or higher level functional tokens (e.g., neural tokens) that are themselves realized by narrowly physical tokens.

even though a non-physical state of affairs (involving ectoplasm) must obtain for my duplicate to satisfy the condition associated with the belief.

Building on this point, here is my proposal for formulating physicalism about the mental. I suggest that we take Melnyk's unrevised [R₀] and simply restrict the domain of its initial universal quantifier from all tokens to just the mental tokens.

[R_M] Every *mental* property instance (object of a *mental* kind, event of a *mental* kind) is *either* an instance of a physical property (an object of a physical kind, an event of a physical kind) *or* an instance of some functional property (an object of a functional object kind, an event of a functional event kind) that is *realized by* an instance of a physical property (an object of a physical kind, an event of a physical kind).²¹

Notice that if Melnyk's [R₀] were the proper formulation of physicalism simpliciter – which, again, is something he denies, but which below I will defend – then this proposal would be an instance of what I called back in §1 the straightforward approach to formulating physicalism about the mental. Even so, it would be immune to my argument from that section, for that argument purported to show only that the straightforward approaches fails *if* it is assumed that physicalism simpliciter is best formulated in terms of some relation at least as strong as supervenience. The realization relation employed in [R₀] and [R_M] is not such a relation. It is not supervenience-entailing.

This last point requires a bit of unpacking, especially because we are making a cross-categorical comparison here: supervenience is typically understood as a relation between sets of properties, while the realization relation we are using holds between tokens. Let F and G be two sets of types (properties, object types, event types). When I say that the realization relation employed in [R₀] and [R_M] is not supervenience-entailing,

²¹ [R_M] as formulated is compatible with reductive versions of physicalism which would identify mental tokens with narrowly physical tokens. In the discussion that follows, though, I will generally assume that mental tokens are to be identified not with narrowly physical tokens but with functional tokens that are realized by narrowly physical tokens.

what I mean is that even if all possible F-tokens are realized (in the given sense) by G-tokens, this does not entail that F-types supervene on G-types. So for instance, [R_M] could be true and yet the mental could fail to supervene on the physical. This is what happens at my duplicates' world: my duplicates' beliefs are physically realized there, in the sense given by [R_M], and yet psychophysical supervenience fails. It is precisely because the realization relation it employs is not supervenience-entailing that [R_M] is promising as a formulation of physicalism about the mental.

In the passage cited above, Melnyk writes that in his example of the associated condition requiring the presence of five angels in Australia – which I take to parallel our example of the belief that ecto-water is wet – the given functional token fails, intuitively, to be realized by the physical. In response, I note the familiar point that philosophers have use for a variety of different realization relations. In fact, Melnyk himself introduces three distinct ones: narrow realization, broad realization, and very broad realization.²² None of these three quite suits my purposes here, for as Melnyk develops them, each is supervenience-entailing. To signal that the realization relation employed in [R_M] and [R₀] is not supervenience-entailing, and to acknowledge the debt to Melnyk's overall theoretical framework, I propose that we call our realization relation *very narrow* realization. In Melnyk's Australian angels example, then, while I acknowledge that there are senses of realization in which the given functional token is *not* physically realized, I also insist that there is a perfectly good sense in which it *is*. It is very narrowly

²² Melnyk (2003: 28-29). Narrow realization obtains between functional tokens and intrinsic physical tokens; broad realization between functional tokens and intrinsic physical tokens *plus* external or historical physical conditions; and very broad realization between functional tokens and intrinsic physical tokens plus external or historical physical conditions *plus* physical laws.

physically realized. My proposal is that physicalism about the mental should be formulated in terms of this very narrow realization relation.

The same is also true of physicalism simpliciter, I say. Again, Melnyk takes his Australian angels example to show that $[R_0]$ is inadequate as a formulation of physicalism simpliciter. The fix, he thinks, is to impose restrictions on the associated conditions of functional types, so that a token of a functional type counts as physically realized only if the associated condition obtains solely by virtue of physical facts. Through these restrictions, Melnyk in effect builds it into his physical realization relation that it is supervenience-entailing. I deny that any such fix is needed in the first place. If there are five angels in Australia, then it's not the case that every property instance, object, and event is either physical or physically realized, since the angels themselves are not. $[R_0]$ is thus false in the envisioned scenario, and so we do not have a counterexample to $[R_0]$ as a formulation of physicalism simpliciter. In short, the *generality* of $[R_0]$ rules out the Australian angels scenario, without any need to impose restrictions on permissible associated conditions, or turn the realization relation employed into a supervenience-entailing relation.²³

In connection, again reconsider the world of Ectoplasm Earth and Twectoplasm Earth. First, since all mental tokens are very narrowly physically realized there, $[R_M]$, is true. Again, this is the result that a formulation of physicalism about the mental should deliver, since physicalism about the mental is true there. Second, since not all tokens are physical or very narrowly physically realized there – in particular, ectoplasm and twectoplasm tokens are not – $[R_0]$ is false. This is the result that a formulation of physicalism simpliciter should deliver, since physicalism simpliciter is false there. Since

²³ This point is made in Witmer's (2004) review of Melnyk.

we are getting the right answers here, I propose Melnyk's unrevised [R₀] as the proper formulation of physicalism simpliciter. Physicalism simpliciter should be understood as the thesis that everything is physical or very narrowly physically realized.

Here are two observations about this proposal. First, it is very unusual among formulations of physicalism simpliciter in that the canonical relation it employs, that of very narrow realization, is not supervenience-entailing. Let me be very clear on what I'm asserting here. If [R₀] is true, then it does indeed follow that everything supervenes on the physical. So, [R₀] itself entails supervenience. But, the complete generality of [R₀] is needed to get this result; it does not directly fall out of the very narrow realization relation itself, since the relation is not supervenience-entailing, in the sense spelled out above. This distinguishes the present approach from supervenience formulations of physicalism, which obviously do employ a supervenience-entailing canonical relation, and also from various alternative realization formulations of physicalism, like Melnyk's, which employ a supervenience-entailing form of realization as their canonical relation.

Second, now that I've officially embraced [R₀] as a formulation of physicalism simpliciter, we can see that my proposal for formulating physicalism about the mental as [R_M] does indeed count as an instance of what I called the straightforward approach. Physicalism simpliciter is the thesis that *everything* is physical or very narrowly physically realized, while physicalism about the mental is the thesis that *the mental* is physical or very narrowly physically realized. By extension, I suggest that we can formulate physicalism about the chemical as the thesis that the chemical is physical or very narrowly physically realized, physicalism about the geological as the thesis that the geological is physical or very narrowly physically realized, and so on.

This second point can be developed into a final argument in favor of the approach defended in this paper. Prior to serious theorizing, there obviously seems to be some close connection between the idea that nothing exists over and above the physical and the idea that the mental, or the chemical, or the geological, or whatever, are nothing over and above the physical. The unrestricted claim would seem to be just what you get when you “add up” all the restricted claims together. One would thus expect that when it comes time to theoretically explicate these different claims, there will be some natural, straightforward connection between them.

This expectation is destined to be frustrated, however, given certain proposed formulations of physicalism simpliciter. For instance, take supervenience formulations, which equate physicalism simpliciter with the thesis that everything supervenes on the physical. Granting momentarily that this is the correct way to understand physicalism simpliciter, the view leaves us scrambling to find *some other* relation to characterize physicalism about the mental, since, as I’ve argued, physicalism about the mental cannot be understood as a psychophysical supervenience thesis. Apparently, we will need some whole new (non-supervenience-based) theoretical apparatus to capture the restricted thesis. Given supervenience-based formulations of physicalism simpliciter, then, there turns out to be theoretical disunity where we otherwise would have expected to find unity. I have no knockdown argument that this result is absurd. Who knows, maybe what it means for there to be nothing over and above the physical is one thing, and what it means for the mental to be nothing over and above the physical is something entirely different. But what is more likely, I think, is that this disunity reveals that supervenience formulations fail to capture the *core notion* of what it is to be nothing over and above the

physical. This core notion should be something common across formulations of physicalism simpliciter and formulations of physicalism about the mental, the chemical, the geological, and so on. It should provide the theoretical unity we expect.

This is intended as a novel argument against supervenience-based formulations of physicalism simpliciter. The familiar objection is that they are inadequate because supervenience relations themselves need to be physicalistically explainable (rather than brute, or non-physicalistically explainable) before they are physicalistically acceptable; relatedly, it is argued that everything could supervene on the physical (with full metaphysical necessity) and yet, intuitively, physicalism simpliciter still could be false, as in certain emergentist scenarios, perhaps.²⁴ This criticism by itself gives us good reason to reject the supervenience approach. But in addition, I claim, supervenience-based formulations of physicalism simpliciter have *another* problem. Such formulations are objectionable because they force unexpected theoretical disunity upon us, disunity that appears unmotivated and which is otherwise avoidable, as the approach defended in this paper demonstrates. This consideration also cuts against those realization-based formulations of physicalism simpliciter which employ a supervenience-entailing realization relation, although I acknowledge that here the point may be somewhat less forceful, since such realization relations are at least recognizably connected to the non-supervenience-entailing realization relation used in [R_M].

Let me sum things up. The problem of formulating physicalism about the mental is philosophically interesting in its own right, as I have hoped to show throughout the paper. But it is also interesting for the light it sheds on how physicalism simpliciter should be understood. I have argued that the two formulations should achieve a kind of

²⁴ See Horgan (1993), Wilson (1999) and (2005).

theoretical unity. This is meant as a new desideratum for formulations of physicalism simpliciter, taken together with formulations of physicalism about the mental. It is a mark in favor of the approach advanced in this paper that it satisfies this desideratum. Unless other approaches can satisfy this desideratum as well – and many can't – this is a unique advantage for the approach.

Works Cited

- Block, Ned (1986). "Advertisement for a Semantics for Psychology." *Midwest Studies in Philosophy*, X: 615-678.
- Clark, Andy and David J. Chalmers (1998). "The Extended Mind." *Analysis*, 58: 7-19.
- Dowell, Janice (2006). "The Physical: Empirical, Not Metaphysical." *Philosophical Studies*, 131: 25-60.
- Gillett Carl and Gene Witmer (2001). "A Physical Need: Physicalism and the Via Negativa." *Analysis*, 61: 302-308.
- Heil, John (2009). "Relations." In *The Routledge Companion to Metaphysics*, edited by Robin Lepoidevin, Peter Simons, Andrew McGonigal, and Ross Cameron. London: Routledge: 310-321.
- Hempel, Carl (1970). "Reduction: Ontological and Linguistic Facets." In *Essays in Honor of Ernest Nagel*, edited by Sidney Morgenbesser, Patrick Suppes, and Morton White. New York: St. Martin's Press.
- Horgan, Terence (1983). "Supervenience and Microphysics." *Pacific Philosophical Quarterly*, 63: 29-43.
- Horgan, Terence (1993). "From Supervenience to Superdupervenience." *Mind*, 102: 555-586.
- Jackson, Frank (2007). "Is Belief an Internal State?" *Philosophical Studies*, 132: 571-580.
- Levine, Joseph (online). "Comments on Melnyk's *A Physicalist Manifesto*." Presented at the 2007 Pacific APA, available at <http://www.umass.edu/philosophy/faculty/levine.htm>.

- Lewis, David (1983). "New Work for a Theory of Universals." *Australasian Journal of Philosophy*, 61: 343-377.
- Kim, Jaegwon (1998). *Mind in a Physical World*. Cambridge: MIT Press.
- Kim, Jaegwon (2006). *Philosophy of Mind, 2nd Edition*. Cambridge: Westview Press.
- McGinn, Colin (1989). *Mental Content*. Oxford: Blackwell.
- Melnyk, Andrew (2003). *A Physicalist Manifesto: Thoroughly Modern Materialism*.
Cambridge: Cambridge University Press.
- Montero, Barbara (1999). "The Body Problem." *Noûs*, 33 (2): 183-200.
- Papineau, David (2002). *Thinking About Consciousness*. Oxford: Clarendon Press.
- Rowlands, Mark (1999). *The Body in Mind: Understanding Cognitive Processes*.
Cambridge: Cambridge University Press.
- Rupert, Robert D. (2004). "Challenges to the Hypothesis of Extended Cognition,"
Journal of Philosophy, 101 (8): 389-428.
- Stoljar, Daniel (2001). "Physicalism." *Stanford Encyclopedia of Philosophy*, available
online at <http://plato.stanford.edu/entries/physicalism/>
- Wilson, Jessica (1999). "How Superduper does a Physicalist Supervenience Need to
Be?" *Philosophical Quarterly*, 49: 33-52.
- Wilson, Jessica (2005). "Supervenience-Based Formulations of Physicalism." *Noûs*, 29:
426-459.
- Wilson, Jessica (2006). "On Characterizing the Physical." *Philosophical Studies*, 131:
61-99.
- Witmer, Gene (2004). "Review of Andrew Melnyk, *A Physicalist Manifesto: Thoroughly*

Modern Materialism.” *Notre Dame Philosophical Reviews*, available at
<http://ndpr.nd.edu/review.cfm?id=1442>

Worley, Sara (2006). “Physicalism and the Via Negativa.” *Philosophical Studies*, 131:
101-126.