

Is Ground Fine-Grained Enough for Physicalism?¹

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Abstract: I show how mind-body identity theories reveal a novel concern for grounding physicalism. C.S. Jenkins (2011) and Jessica Wilson (2016) demonstrate that grounding physicalism struggles to count mind-body identity theories as physicalist. I suggest that mind-body identity theories also reveal a different problem for grounding physicalism: they show that current versions of grounding physicalism are too coarse-grained. While some mind-body identity theories are physicalist, others are nonphysicalist. Grounding physicalism is in danger of treating some nonphysicalist identity theories as physicalist. I explore modifications to grounding physicalism to accommodate a variety of mind-body identity theories. While certain versions of grounding physicalism can accommodate mind-body identity theories, I explain why those versions of grounding physicalism leave some explanatory questions unanswered.

Some philosophers claim that physicalism obtains when mental facts are grounded in physical facts.² This position is often called “grounding physicalism.” I show how mind-body identity theories pose a new problem for grounding physicalism. C.S. Jenkins (2011) and Jessica Wilson (2016) demonstrate that grounding physicalism struggles to count mind-body identity theories as physicalist. I argue that mind-body identity theories reveal another problem for grounding physicalism: they show that current versions of grounding physicalism are too coarse-grained. Grounding physicalism is in danger of treating some nonphysicalist identity theories as physicalist. We should be able to use our account of physicalism to determine which identity theories count as physicalist, and which ones count as nonphysicalist, and why. I suggest modifications to grounding physicalism to accommodate a variety of mind-body identity theories.

Before objecting to grounding physicalism, we should better understand grounding physicalism and its appeal. Those are the tasks of section I. In Section II, I introduce Jenkins’ (2011) and Wilson’s (2016) problem that identity theories pose for grounding physicalism. Section III explores responses on behalf of grounding physicalism. In Section IV, I show why the responses in Section III are inadequate. In Section V, I discuss further modifications to grounding physicalism that allow grounding physicalism to accommodate identity theories. The paper ends on a hopeful note but with a dose of hesitation. While certain versions of grounding physicalism can accommodate mind-body identity theories, I explain why those versions of grounding physicalism remain explanatorily mysterious.

I. Grounding Physicalism and Its Appeal

A. Formulations of Grounding Physicalism

Before discussing grounding physicalism, I first introduce certain features of ground. I take ground to be an asymmetric dependence relation holding among facts. One fact grounds another when the latter obtains in

¹ Thank you to Martín Abreu Zavaleta, Ronald Houts, an audience at Rutgers University, two anonymous reviewers for this volume, and especially Gabriel Rabin for very helpful feedback.

² See (as a sample), Rosen (2010), Dasgupta (2014), Goff (2017), Schaffer (2017), Bryant (2020), Rabin (2020), Rubenstein (forthcoming) as well as the other papers in this volume for discussion of grounding formulations of physicalism.

virtue of the former. A fact can be grounded in a single fact or in a plurality of facts. In section V, we will also entertain plural grounding where a plurality of facts can ground another plurality of facts. A fact for our purposes is a worldly entity constructed out of objects and properties and/or relations.

Here are some assumptions I take on board about metaphysical ground: Ground is related to metaphysical explanation. For facts Φ and ψ , if Φ grounds ψ , Φ metaphysically explains ψ . Ungrounded facts do not obtain in virtue of anything. Moreover, if Φ grounds ψ , then Φ is more fundamental than ψ . I distinguish two kinds of ground: full and partial ground. Φ fully grounds ψ when Φ is sufficient on its own to metaphysically explain ψ . Φ partially grounds ψ when Φ either on its own or together with other facts fully grounds ψ . It is standard to take ground to induce a strict partial order:³ Ground is taken to be a transitive, asymmetric, and (hence) irreflexive relation.

In what follows, I focus on what it takes for mental facts (as opposed to normative facts or about abstracta, for example) to depend on physical facts. I unfortunately cannot provide a substantive account of the distinction between mental and physical properties, states, or facts. The best I can do is illustrate the kinds of facts I have in mind by way of example. For our purposes, mental facts have as constituents only mental properties, objects, states, and events. Facts like [Mary is visually experiencing the color red] and [Jorge is in pain] are mental facts. Physical facts have as constituents only physical properties, objects, states, and events. So, facts such as [Mary is in a specific neural state] and [Jorge has brain damage] are physical facts.⁴

There are many versions of grounding physicalism. To streamline the discussion, I initially focus on one version (but see Bryant (2020) for a helpful overview of versions of grounding physicalism).

Grounding Physicalism: All substantive nonphysical facts are grounded in facts that are either physical or autonomous.

Shamik Dasgupta (2014) introduces the above characterization.⁵ For Dasgupta, only substantive facts are “apt for being grounded” (575). Autonomous facts play a special role in Dasgupta’s account. They are not apt for being grounded nor are they fundamental. According to Dasgupta, autonomous facts include ones involving essences, such as [It is essential to being conscious that if subject s has physical property P then s has mental property M]. Dasgupta appeals to autonomous facts because he thinks that even in a physicalist picture, certain nonphysical facts will not be grounded in purely physical facts. Grounding facts themselves (facts like [x has physical property P grounds the fact that x has mental property M]) are presumably nonphysical as they involve nonphysical states; such grounding facts do not appear to be grounded in physical facts. Instead, we can take them to be grounded in autonomous facts. Philip Goff (2017) offers a similar characterization of physicalism:

“All substantive facts which either concern entities at greater than atomic levels of complexity or involve mentality/proto-mentality or value-laden causation, are grounded in facts which are autonomous and in facts

³ However, there are philosophers who reject transitivity, irreflexivity and asymmetry. For discussion, see Raven (2013), Rodriguez-Pereyra (2015), Schaffer (2012), Makin (2017), Koslicki (2015), and more. Kit Fine has developed theories of ground which drop the irreflexivity constraint. See Fine (2012) and deRosset (2013) for discussion.

⁴ It is notoriously difficult to define “physical.” For now, we will assume quintessential physical entities include ones like brains, and properties like neural properties, chemical, atomic, and subatomic properties. Quintessential “mental” entities include properties and states such as being in pain, having an experience of red qualia, etc. But this is not an adequate characterization of the distinction. See Markosian (2000), Melnyk (1997), Montero (1999), Dowell (2006), Wilson (2006), and Stoljar (2009) among many others for helpful discussion. We may want to expand this characterization of physical facts to allow them to include logical properties as well.

⁵ Note that this is only one of the versions of grounding physicalism Dasgupta discusses (he labels it “weak physicalism”). The distinctions between his different versions are not important for our purposes.

which concern entities at atomic or lower levels of complexity and which do not involve mentality/proto-mentality or value-laden causation.” (54)

Goff’s characterization maintains that physicalism holds when facts involving mental entities are grounded in facts involving entities exhibiting atomic or lower levels of complexity. These influential formulations from Dasgupta and Goff provide a starting point for analyzing versions of grounding physicalism, and I appeal to them below. While autonomous facts are controversial, that should not concern us here. The inclusion of autonomous facts will not make a difference to the objections posed by identity theories.

B. The Appeal of Grounding Physicalism

Characterizing physicalism in terms of ground is appealing for multiple reasons. First, ground aims to capture a notion of asymmetric metaphysical dependence. Physicalists typically accept that mental facts asymmetrically depend on physical facts; thus, it is fitting to appeal to ground when accounting for the mental’s dependence on the physical.

Second, ground seems more appropriate for characterizing physicalism than modal dependence relations, like supervenience.⁶ Grounding theorists charge that supervenience accounts of physicalism cannot distinguish between physicalist and nonphysicalist scenarios where mental facts supervene on physical facts.⁷ The supervenience theorist claims that physicalism obtains when the mental supervenes on the physical, or—to dramatically oversimplify—when physical facts necessitate mental facts. Such accounts run into trouble if mental and physical facts modally covary; yet, mental facts are still emergent or fundamental. Ground, on the other hand, picks out a finer-grained, hyperintensional notion of metaphysical dependence. For the grounding theorist, it is not sufficient for the mental to metaphysically depend on the physical that the mental supervenes on the physical.

In relation to the second point, even if we are attracted to a modal characterization of physicalism, Gabriel Rabin (2020) argues that modal characterizations already must invoke hyperintensional resources—especially that of fundamentality—to solve outstanding problems. Rabin argues that we need hyperintensional resources to solve the problem of extras. The problem of extras is a problem for modal formulations of physicalism—especially for formulations of physicalism claiming that all pairs of possible worlds that are physical duplicates are duplicates simpliciter. These modal formulations are challenged by the possibility of a physical duplicate of the actual world (where we assume the actual world is physicalist) that contains an ectoplasmic ghost (call this new world “Actual-plus-Ghost”). Rabin (2020) states that “Physicalism about Actual-plus-Ghost is clearly false. It contains non-physical ghosts. But the mere metaphysical possibility of Actual-plus-Ghost should not challenge physicalism about the actual world.” (p.10) There are many responses to the problem of extras, but Rabin argues that the best way to understand (or in some cases modify and augment) Lewis’ (1983), Jackson’s (1993), Chalmers’ (1996), and Leuenberger’s (2008) responses to the problem of extras is by invoking fundamentality.⁸ While this does not by itself give us a reason to endorse the formulation of grounding physicalism above, it shows that we should already be amenable to using hyperintensional notions in our characterization of physicalism. And if we understand fundamentality as ungroundedness, then Rabin’s arguments directly support incorporating ground into our theories of physicalism.⁹

⁶ For discussion of supervenience, see for example: Paull and Sider (1992) Haugeland (1983), Horgan (1983, 1993), Kim (1984), (1993), Montero (2013), Stalnaker (1996), and Wilson (1999), (2005).

⁷ For example, see Schaffer (2017) and Rabin (2020). See Kovacs (2019) for a defense of supervenience.

⁸ Thank you to Gabriel Rabin for helpful pointers here.

⁹ Absolute fundamentality is often characterized in terms of ground: a fundamental fact is an ungrounded fact. But it’s contested whether every ungrounded fact should count as perfectly fundamental. See for example, Fine (2001). The autonomous facts (as discussed above) posited by Dasgupta and Goff are also not grounded by further facts, but they are supposed to have a different status than ungrounded, fundamental facts.

Third, ground aims to capture a general notion of metaphysical dependence. Ground is plausibly general enough to subsume certain other dependence relations, like realization, reduction, and determination (as in the relationship between determinables and its determinates).¹⁰ As such, ground can capture the variety of ways in which nonphysical facts depend on physical facts. For instance, we may take physicalism to hold in a world where all facts involving nonphysical states depend on physical facts, but where some nonphysical states are *realized* by physical states and others are *determined* by physical states. By appealing to ground, the hope is that we can provide a general, non-disjunctive way of characterizing such a physicalist picture. All the facts involving nonphysical states (no matter whether these states are realized or instead determined by physical states) are grounded in facts involving physical states.¹¹

Of course, none of these lines of reasoning is uncontroversial.¹² The aim of this section was to explain some of the initial appeal and motivations for characterizing physicalism in terms of ground—these motivations are not meant to be conclusive reasons in favor of grounding physicalism. I now turn to one specific line of criticism against grounding physicalism.

II. The Classic Problem Identity Theories Pose for Grounding Physicalism

Identity Theories pose a straightforward problem for grounding physicalism. First popularized by philosophers like J.J.C. Smart (1959) and U.T. Place (1956), identity theorists take the mental to be identical with the physical. Smart and Place focused on the identification of experiences with brain processes¹³, but I will focus on mental and physical *facts* because that will be easier to discuss in a grounding framework. Identity theorists take mental facts to be identical with physical facts. For instance, the fact that Jane is in conscious state *M* is identical with the fact that Jane is in complex neurological state *P*. These facts are identical because their constituents are identical. They involve the same object (Jane) instantiating the same properties (since they take the conscious property *M* is identical with the complex neurological property *P*).¹⁴

Jenkins (2011) and Wilson (2016) reveal a tension between grounding-characterizations of physicalism and mind-body identity theories. Identity theories pose a problem for grounding physicalism if we think that mental facts can be identical with fundamental physical facts. If a fact involving mental state *M* is identical with a fundamental fact involving physical state *P*, then the fact involving mental state *M* would be ungrounded. A problem now arises because ground is typically taken to be an irreflexive relation: a fact cannot ground itself. So, if mental facts are physical facts, and those physical facts are fundamental, then not all mental facts are grounded in physical facts.

¹⁰ Nevertheless, see Wilson (2014) for forceful objections to this idea.

¹¹ See Berker (2018) for related discussion.

¹² For a small sample of criticism of grounding physicalism, see Wilson (2014, 2016), Kovacs (2019), and Rubenstein (forthcoming).

¹³ Smart (1963, p.657).

¹⁴ There are multiple versions of the identity theory: Type-Type identity theory maintains that certain mental properties or state-types are identical with physical properties or state-types. One concern is that Type-Type identity theories don't allow room for multiple realization (See Putnam (1967) for the initial formulation of multiple realizability in this context). For instance, it is unreasonable to assume that facts involving octopus pain involve the same properties as facts involving human pain. We can move to a Token-Token identity theory in response to this concern. Token-Token identity theories claim that each token mental event/state/property is identical with a token physical event/state/property. While every token pain state (whether it is human pain or octopus pain) is identical with a token physical state, the physical state identical with the human pain state may differ significantly from the physical state identical with the octopus pain state. Identity theories still form a subset of quintessential physicalist views and are still discussed. For example, Samuel Elgin (2020) has recently introduced a new version of the mind-body identity theory that collapses the distinction between type-type and token-token identity theories.

Jenkins (2011) poses the problem as follows: “[I]f we wish to maintain irreflexivity and that S’s pain is dependent upon brain state B, we had better divide up the world with sufficient fineness of grain to make S’s pain and brain state B come out as distinct states. Certain conceptions of what exists, namely conceptions that would look to identify those two states, are not now an option.” (p. 269). Wilson (2016) also forcefully formulates a version of this objection: “[I]dentity is neither asymmetric nor irreflexive; hence if Grounding is a partial order, a Grounding-based formulation of physicalism would be at best a formulation of non-reductive physicalism, notwithstanding that the most natural reading of the reference to ‘nothing over and aboveness’ in the schematic formulation of physicalism is as involving identity, as on reductive versions of this thesis.”¹⁵ (pp. 502-3)

We can avoid the problem for grounding physicalism if “higher-level” physical facts, like ones involving neural states, are taken to be non-fundamental. If neural facts are grounded in further microphysical facts, then physicalism will obtain as long as mental facts (which are neural facts) are still grounded in more fundamental physical facts. But a situation in which mental facts are identical with fundamental physical facts is not too far-fetched. For example, we can imagine an identity theorist claiming that a mental state is identical with a physical state of subatomic particles being arranged in such-and-such-a-pattern. If facts involving arrangements of subatomic particles are fundamental, then mental facts would be identical with fundamental physical facts; such mental facts would not be grounded in physical facts because they would not be grounded at all.¹⁶ Furthermore, if we are identity theorists, we may be inclined to take higher level physical facts (such as neurological facts) to be identical with certain lower-level physical facts for the same reason we take mental facts to be identical with physical facts: we think that reduction takes place *via* identity.¹⁷

III. Modifying Grounding Physicalism: First Attempts

Here, I suggest two ways to modify grounding physicalism to respond to Jenkins’ and Wilson’s concerns and show how modifying grounding physicalism in these ways renders salient a new problem posed by mind-body identity theories.

A. Option 1: Going Disjunctive

To accommodate physicalist identity theories, we can explicitly build into our account that physicalism holds when mental facts are grounded in or identical with physical facts. Thus, we adopt an explicitly disjunctive account of physicalism:

Disjunctive Grounding Physicalism: Every nonphysical fact is either fully grounded in physical facts or identical with a physical fact.¹⁸

Disjunctive grounding physicalism maintains that worlds in which mental facts are identical with fundamental physical facts are physicalist worlds because the second disjunct is satisfied. We will return to this view, but first I examine another characterization of grounding physicalism.

¹⁵ Wilson uses “Big G” grounding (“Grounding”) to pick out metaphysical ground as opposed to “little g” grounding relations such as determination and realization. In this paper, my use of “grounding” corresponds to her “Big G” grounding.

¹⁶ You may question whether such a world is truly physicalist. I take up this discussion in sections IV and V.

¹⁷ Thanks to Gabriel Rabin for this helpful suggestion.

¹⁸ Bryant (2020) also discusses a disjunctive characterization of grounding physicalism. As a reminder: I omit mention of autonomous facts here just for ease of reading.

B. Option 2: Appealing to Weak Ground

Another option is to drop the irreflexivity (and asymmetry) constraint from our account of grounding physicalism.¹⁹ Kit Fine (2012) developed an account of reflexive ground, which he calls “weak ground” (the irreflexive version is called “strict” ground).²⁰ If we take physicalism to hold whenever mental facts are weakly grounded in physical facts, then we can retain a formulation of grounding physicalism stating that physicalism holds if and only if every mental fact is fully grounded in a plurality of physical facts. When “fully grounded” means “fully weakly grounded,” the fact that Jane is in mental state *M* is grounded in the fact that Jane is in neurological state *P* (even when *M* = *P*). We can formulate a characterization of physicalism as follows:

Weak Grounding Physicalism: All nonphysical facts are fully *weakly* grounded in physical facts.

While neither of these options can rescue the idea that mental facts depend on neurological facts if dependence is an irreflexive relation, they at least will dictate that mind-body identity theories in which mental facts are identical with physical facts (and those physical facts aren’t grounded in nonphysical facts) count as physicalist.

IV. The Revenge of the Mind-Body Identity Theory

Neither option 1 nor option 2 is ultimately successful in accommodating identity theories. Both approaches are too coarse-grained: They treat too many versions of the mind-body identity theory as physicalist. While classic identity theories deserve to be counted as physicalist, not every version of the identity theory is physicalist. The two approaches above are in danger of wrongly treating nonphysicalist identity theories as physicalist. The structure of this section is as follows: I will describe a case in which we have a mind-body identity theory that is intuitively nonphysicalist. Then, I will contrast that case with one in which we have a physicalist mind-body identity theory, and I will explain why grounding physicalism (and the modifications of it above) cannot accommodate these cases. First, let’s start with a nonphysicalist world:

Idealist Identity World: Suppose the truth of a nonphysicalist identity theory in which everything is fundamentally mental. In Idealist Identity World, we can imagine idealist versions of Smart and Place arguing that every physical fact is identical with a mental fact, and this is why we should think of the world as ultimately nonphysicalist. Further, we assume both that all the physical facts are identical with mental facts and that all the mental facts are identical with physical facts.

Since physical facts are identical with mental facts (and all facts are either fundamental physical (and mental) facts or grounded in fundamental physical (and mental) facts), disjunctive and weak grounding physicalism will wrongly treat Idealist Identity World as physicalist.

One may object that this is not a problem because Idealist Identity World *should count* as physicalist. In Idealist Identity World, every fundamental mental fact is physical, and every fundamental physical fact is mental. Because all the fundamental facts are physical as well as mental, it may be difficult to grasp why this world is really nonphysicalist, and not a version of the original Place’s and Smart’s identity theories.

¹⁹ Jenkins (2011) advocates abandoning the irreflexivity of ground. We will return to her specific proposal in section V.

²⁰ See also deRosset (2013).

To establish that Idealist Identity World truly is nonphysicalist, I introduce the following thought experiment—one that is similar in spirit to ones that Anti-Humeans about laws sometimes invoke.²¹ Let's set aside Idealist Identity World for the moment and focus on another world, I call it "Quintessential Idealist World," in which all the fundamental facts are mental. Quintessential Idealist World is also a world in which a version of the identity theory holds. Some facts (including some fundamental facts) are both physical and mental. Quintessential Idealist World differs from Idealist Identity World in that in Quintessential Idealist World, all physical facts are mental, but some fundamental mental facts are nonphysical (and not grounded in the physical). In Quintessential Idealist World there are thoroughly nonphysical fundamental facts involving disembodied soul particles. Quintessential Idealist World seems genuinely nonphysicalistic: all the fundamental facts are mental, and the fundamental facts ground all other facts.

From the perspective of inhabitants of Quintessential Idealist World, it is possible that the world could contain fewer items, and in particular, that the world could lack the disembodied soul particles. In other words, there is a world just like Quintessential Idealist World, but that lacks the fundamental mental, nonphysical entities (it lacks the fundamental disembodied soul particles); nevertheless, that world would still be a nonphysicalist world. The extra entities were not necessary for securing the Quintessential Idealist World as nonphysicalist. Idealist Identity World is exactly like Quintessential Identity World except that it lacks the disembodied soul particles. If Quintessential Idealist World is nonphysicalist, then the removal of those particles should not automatically render the resulting world physicalist. Thus, we have reason to think that Idealist Identity World is a nonphysicalist world.

We use the same kind of thought experiment to show why other worlds in which the identity theory holds should count as physicalist. Consider the following world:

Physicalist Identity World: Everything is fundamentally physical in this world. Furthermore, we assume that all the physical facts are identical with mental facts and that all the mental facts are identical with physical facts in Physicalist Identity World.

We contrast Physicalist Identity World with Quintessential Physicalist Identity World. In Quintessential Physicalist Identity World, there are physical facts that are not identical with or grounded in mental facts (facts involving solely physical subatomic particles, for instance) in addition to the fundamental facts that are both physical and mental. From the perspective of inhabitants of Quintessential Physicalist World, it is possible that the world could contain fewer items—it's possible that the world could lack the purely physical subatomic particles. The world without the purely physical particles is Physicalist Identity World. But removing a few particles from the world shouldn't require us to move from a physicalist world to a nonphysicalist one. So, parallel to the reasoning above, we should count Physicalist Identity World as physicalist just as we should count Idealist Identity World as nonphysicalist.

We are left with a puzzling scenario: Idealist Identity World and Physicalist Identity World may be qualitatively alike but the former counts as nonphysicalist while the latter should count as physicalist. Grounding physicalism struggles to distinguish the two worlds. In both worlds, all fundamental facts are both mental and physical. Neither the original formulation of grounding physicalism, nor the Disjunctive and Weak Grounding versions have the resources to distinguish between the Idealist Identity World and the Physicalist Identity World.

I understand that these cases are provocative, and that not everyone will have the intuition that Idealist and Physicalist Identity Worlds truly do differ with respect to whether physicalism holds at them. There is more to say about exactly how to distinguish the physicalist status of Idealist and Physicalist Identity Worlds. I further discuss how to differentiate similar worlds in Shumener (ms.). For now, I suggest that the worlds differ in whether they are physicalist

²¹ For example, see Carroll (1990), Tooley (1977), and Beebe (2000) for discussion.

due to the modal neighborhoods the worlds reside in. Idealist Identity World resides in a modal neighborhood where all fundamental facts are mental (and only sometimes physical). To clarify, all the possible worlds in its neighborhood are ones with fundamental mental facts, and only some of the worlds in the neighborhood are ones where all the fundamental facts are both mental and physical. Physicalist Identity World resides in a modal neighborhood where all fundamental facts are physical (and only sometimes mental).

These cases are like the ones that some philosophers, such as Carroll (1990), use to motivate Anti-Humeanism. In the discussion of laws of nature, the idea is that we can imagine multiple possible worlds with the same Humean mosaic but where the laws of nature differ at the two worlds; moreover, the worlds differ in which counterfactuals they support. The case of Idealist and Physicalist Identity Worlds is similar: the idea is that the Idealist and Physicalist Identity Worlds share their grounding structure and identity facts. But the worlds differ in whether physicalism holds because they differ in which counterfactuals they support. At Idealist Identity World, it's true that if there had been additional fundamental entities, they would have been mental. And at Physicalist Identity World, it's true that if there had been additional fundamental entities, they would have been physical. The Idealist and Physicalist Identity Worlds will be controversial in similar ways to how Anti-Humean examples concerning laws are controversial. But if one has the intuition that worlds can differ in their laws even if they have the same Humean mosaic, one should be open to the possibility that worlds can differ in their physicalist status even if the worlds exhibit the same patterns of identity and grounding facts.

Where does this leave us? The upshot is that some instances of the identity theory should count as physicalist and others as nonphysicalist, but the versions of grounding physicalism discussed so far cannot differentiate these worlds. Both worlds have the same grounding structure. Given that the disjunctive and reflexive versions of grounding physicalism just build in that every world where mental facts are identical with physical facts are physicalist worlds, they cannot distinguish between physicalist worlds where an identity theory is true and nonphysicalist worlds where an identity theory is true.

V. Modifying Grounding Physicalism: More Fine-Grained Approaches

This section explores ways to render our account of grounding physicalism more fine-grained. I investigate how appeals to modes of presentation and sentential ground allow us to distinguish between the Idealist and Physicalist Identity Worlds.

A. Modes of Presentation and the Jenkins-Style Approach

Jenkins' proposal for accommodating identity theories makes more progress than the disjunctive and weak grounding characterizations of physicalism. In what follows, I will modify the letter of Jenkins' approach but will keep the spirit of her proposal by relying on her appeal to modes of presentation. That's why I call this a "*Jenkins-Style* Approach." Jenkins discusses "dependence," but I understand dependence in terms of ground for our purposes. Like those that appeal to weak ground, Jenkins denies that ground is an irreflexive binary relation, but she does not claim that grounding is a reflexive binary relation. Instead, she claims that ground is a four-place relation holding between states of affairs (though we will continue to use facts) and modes of presentation (pp. 272-274).²² Consequently, she can claim that the mental is grounded in the physical even when the mental facts are physical facts.

²² For Jenkins, the quaternary dependence relation holds "between a state of affairs, a (possibly identical) state of affairs, a feature or aspect of the first state of affairs and a feature or aspect of the second state of affairs." (p. 272).

To illustrate, the physicalist identity theorist will claim that the fact that *s* is in pain state *P*, together with the mode of presentation *the pain-y aspect of the state in question* is grounded in *s*'s being in brain state *B* (which is the same fact as *s* is in pain state *P*) together with the mode of presentation *the brain-y aspect of the state in question*. By taking ground to be a four-place relation holding between facts and modes of presentation, we can accommodate physicalist identity theories. In a moment, we will see how this approach can also accommodate nonphysicalist identity theories.

To operate fully within a fact-grounding framework, we can modify this proposal by positing *pairs* of facts grounding other *pairs* of facts. Instead of taking the fact that *s* is in state *P* together with the mode of presentation *the pain-y aspect of the state in question* to be grounded in the fact that *s* is in state *B* together with the mode of presentation *the brain-y aspect of the state in question*, we can have pairs of facts grounding other facts as follows:

[*s* is in state *P*], [*“P”* has a pain-y mode of presentation]²³ is fully grounded in the pair of facts: [*s* is in state *B*], [*“B”* has a brain-y mode of presentation]

This modification does not require our grounding relation to operate on both facts and modes of presentations (considered as entities in distinct ontological categories). The Jenkins-Style Approach fares better than disjunctive and weak grounding physicalism. When mental facts are identical with physical facts in a physicalist world, we can claim the following:

Physicalist Identity World:

[*s* is in state *P*], [*“P”* has a pain-y mode of presentation] is grounded in the pair of facts: [*s* is in state *B*], [*“B”* has a brain-y mode of presentation].

When mental facts are identical with physical facts in a nonphysicalist world, we posit a different grounding relationship:

Idealist Identity World:

[*s* is in state *B*], [*“B”* has a brain-y mode of presentation] is grounded in the pair of facts: [*s* is in state *P*], [*“P”* has a pain-y mode of presentation].²⁴

Thus, we can distinguish the grounding patterns of the Idealist Identity World from the ones found in the Physicalist Identity World. Jenkins-Style Approaches are more fine-grained than the other versions of grounding physicalism we have encountered.

B. Concerns with the Jenkins-Style Approach

One concern is that even if we reify modes of presentation and think of them as Fregean senses, they are not the kinds of entities that belong in the metaphysical story of what grounds facts involving mental states in general. Jenkins addresses this concern:

²³ Names, rather than objects or properties, have modes of presentation. So, I have placed “P” and “B” inside quotation marks to indicate that they are naming the properties *P* and *B*. Thanks to Martín Abreu Zavaleta for discussion here.

²⁴ Or, if one denies that this is either a physicalist or an idealist world, one may deny that a grounding relationship exists in either direction between these fact pairs.

“There need, I think, be no concern to the effect that grounding is ‘not metaphysical enough’... The reason mode of presentation matters, on the example view just sketched, is because of the roles played by certain aspects or features of the relevant states of affairs. One can hold that it is a substantive, metaphysical matter that these features play these roles, and that our language is simply respecting the importance of these metaphysical roles by rendering ‘depends on’ hyperintensional in the way described.” (273)

I agree with Jenkins that this charge is unfair as stated. Jenkins provides a grounding story of pain facts—that seems metaphysical enough! If we believe that modes of presentation exist, it seems plausible to claim that they would be relevant to grounding relationships in some respect or other. But I am not fully satisfied by Jenkins’ response because it is unclear how these modes of presentation are relevant to grounding pain facts. Customarily, we appeal to modes of presentation to explain why people hold certain attitudes. For example, we may think that the Babylonians believed that Phosphorous rises in the morning but not Hesperus because they had a certain mode of presentation associated with the term “Hesperus” that is not associated with the term “Phosphorous.” The mode of presentation is important to explain why people hold certain beliefs and perform certain speech acts. But Jenkins isn’t using modes of presentation to explain attitudes in this context. Further explanation of why and how modes of presentation are relevant to metaphysical explanations of experiential states would be helpful.

A more serious concern with the Jenkins-Style Approach is that, while it distinguishes physicalist identity theories from nonphysicalist ones, the account leaves some of the explanatory story untold. Given that whenever a plurality of facts PPs grounds a plurality of facts QQs, the PPs are more fundamental than the QQs, it follows that the pair of facts involving the physical mode of presentation is more fundamental than the pair involving the mental mode in a physicalist world. But if a mind-body identity theory is true, why think that the pair of facts involving a physical mode of presentation is more or less fundamental than a pair of facts involving a mental mode of presentation? A potential reason to take one mode of presentation to be more fundamental than the other is that the *properties* picked out in one mode are more fundamental than the properties picked out in the other mode. But this cannot be what’s transpiring here because the properties in question are identical. Furthermore, it’s difficult to detect any other basis for taking facts involving physical modes of presentation to ground facts involving mental modes of presentation in a physicalist world where the identity theory holds.

Here’s another way to approach the concern: there are many pairs of facts involving different modes of presentation where neither pair grounds the other. Perhaps we should deny that pairs of facts involving mental and physical modes of presentation stand in a grounding relationship as well. For example, the following pairs of facts do not stand in a grounding relationship:

- A) [Phosphorous is the second planet from the sun], [“Phosphorous” has a morning star-mode of presentation]
- B) [Hesperus is the second planet from the sun], [“Hesperus” has an evening star-mode of presentation]

We take [Phosphorous is the second planet from the sun] and [Hesperus is the second planet from the sun] to be the same fact. One reason that neither the A-plurality nor the B-plurality grounds the other plurality is that neither mode of presentation strikes us as more fundamental than the other mode (there may be additional reasons to deny that either pair grounds the other). There is nothing metaphysically privileged about being *the morning star-mode of presentation* rather than *the evening star-mode of presentation*. So, we should hesitate to take the A-plurality to ground the B-plurality or the B-plurality to ground the A-plurality. There may be other cases involving modes of presentation where we *do* want to posit a grounding relationship. For example, suppose we have a single emerald with two names, “Greeny” and “Gruey.”

- C) [Greeny has spatiotemporal location x], [“Greeny” has a green mode of presentation]
- D) [Gruey has spatiotemporal location x], [“Gruey” has a grue mode of presentation]

[Greeny has spatiotemporal location x] and [Gruey has spatiotemporal location x] are the same fact. We understand grue as the disjunctive property of *being green and observed before 2090 or blue and unobserved before 2090*. We could claim the C-plurality grounds the D-plurality. Perhaps facts about an emerald’s location under the green mode of presentation ground facts about its location under the grue mode of presentation because facts involving the instantiation of greenness ground facts involving the instantiation of grueness (nonetheless, this may not be a *sufficient* reason to take the C-plurality to ground the D-plurality).

The question for the Jenkins-Style Approach is this: Why think that facts involving mental and physical modes of presentation are more like the case of the emerald (C-D) rather than the case of Venus (A-B)? And why think that facts involving mental and physical modes of presentation stand in a grounding relationship if mental and physical properties are identical? It is unclear what reason there is to take pluralities of facts involving pain-y modes of presentation to ground pluralities involving brain-y modes of presentation or *vice versa*.

C. Moving from Fact to Sentential Ground

Let’s explore a final, related, option for the grounding physicalist.²⁵ We can reject the fact-conception of ground and understand ground as a sentential operator instead of as a relation holding among facts.²⁶ Like Jenkins-Style Approaches, this involves modifying the grounding structure. To accommodate modes of presentation, I moved to a context of plural ground where pluralities of facts ground other pluralities of facts. Now we consider rejecting a relational, fact-oriented account of ground altogether.

Under a sentential-operator account of ground, we can uphold the difference between physicalist and nonphysicalist identity theories. Even if mental properties are identical with physical properties, the sentences with mental terms are not identical with sentences containing physical terms. For instance, suppose the mental property *M* = the physical property *P*. The sentence “s has *M*” is still distinct from the sentence “s has *P*.” We can now require that if physicalism holds, then for all sentences of the form “s has *M*” (where *M* is a mental predicate), it’s true that s has *M* because s has *P* (where *P* is a physical predicate).²⁷ In contrast, in the Idealist Identity World, it is true that s has *P* because s has *M*. The direction of dependence differs in the Physicalist and Idealist Identity Worlds.

To clarify, the Sentential Grounding Approach represents a physicalist identity theory as one in which mental truths hold because of physical truths. It represents an idealist identity theory as one in which physical truths obtain because of mental truths. On this proposal, we cannot substitute co-extensional terms *salva veritate* in grounding contexts. Thus, even if “s has *M* because s has *P*,” “s has *P* because s has *P*” is false.²⁸ The Sentential Grounding Approach, like Jenkins-Style Approaches, fares better than the earlier alternatives: it can distinguish physicalist and nonphysicalist identity theories.²⁹

²⁵ Gabriel Rabin has suggested that we can think of the modes of presentation and sentential grounding approaches as parallel—especially if we take sentences to be modes of presentation of facts.

²⁶ See Fine (2012) for development of sentential ground.

²⁷ We can generalize this proposal so that it incorporates mental terms falling into categories other than predicates.

²⁸ Jenkins (2011, p.272) briefly explores such a view in her paper.

²⁹ A reviewer has offered another intriguing suggestion for a related view—one that shares some commonalities with the Jenkins-Style and Sentential Grounding Approaches. Perhaps we can uphold that grounding is a relation between facts,

Note that I have not yet offered new versions of grounding physicalism using modes of presentation or sentential ground. Doing so will require care—especially if we wish to accommodate autonomous facts in our formulations. Instead of attempting to fully characterize physicalism using modes of presentation or sentential ground, I want to return our attention to a potential shortcoming of relying on these resources to accommodate identity theories. Like the Jenkins-Style Approach, the Sentential Grounding Approach leaves some of the explanatory story untold. On what basis can we say that “*s* has *M* because *s* has *P*” is true when *M* and *P* are the same property? We need some grasp on what would make the grounding arrow point in different directions in nonphysicalist and physicalist worlds.³⁰

One could respond by claiming that this is not a problem for Jenkins-Style and Sentential Grounding Approaches to characterizing physicalism. These approaches to characterizing physicalism merely show us how to capture that some identity theories are physicalist, and some are not. They cannot tell us when or why the grounding arrow points in one direction as opposed to the other. Perhaps this is a problem for the identity theory, not for a characterization of grounding physicalism. The identity theorist should tell us more about why some worlds where the identity theory holds count as physicalist and others count as nonphysicalist.

It is difficult to adjudicate exactly whose explanatory task this is, but I suggest that the grounding physicalist should not give up the quest of trying to explain the differences between physicalist and nonphysicalist identity theories. The key to doing so, I think, is recognizing that Idealist Identity World is distinguished from Physicalist Identity World based on the worlds’ modal features as discussed in section IV. The following counterfactual is true at Idealist Identity World but not at Physicalist Identity World:

Idealist Counterfactual: If there had been additional fundamental entities, they would have been mental.

This counterfactual is not true at the Physicalist Identity World because we have not ruled out that the closest world to Physicalist Identity World is Quintessential Physicalist World (a world with fundamental physical, non-mental facts). And the following counterfactual is true at the Physicalist Identity World but not at the Idealist Identity World:

Physicalist Counterfactual: If there had been additional fundamental entities, they would have been physical.

Likewise, this counterfactual is not true at Idealist Identity World because we have not ruled out that the closest world to Idealist Identity World is Quintessential Idealist World (a world with fundamental mental, nonphysical facts). If we could determine on what basis the different worlds support different counterfactuals, then we could explain why one world is physicalist and the other is nonphysicalist. In the laws of nature literature, Anti-Humeans have suggested that we can accommodate worlds with the same mosaic supporting different counterfactuals by positing different laws of nature at the worlds. Perhaps we can try something similar in this context by appealing to laws of metaphysics rather

accept that mental properties are identical with physical properties, but deny that mental facts are identical with physical facts. We deny that mental facts are identical with physical facts because we adopt a suitably fine-grained conception of facts wherein facts with the same objects and properties as constituents can still be distinct. On this position, we can uphold that physical facts ground mental facts (or *vice versa*) without violating irreflexivity—even if the facts have the same properties as constituents. This fine-grained view is intuitively promising and worthy of exploration. I expect that it will leave open some of the same explanatory questions that the Jenkins-Style and Sentential Grounding Approaches leave open, but further investigation is needed.

³⁰ We can make the same points in terms of the relative fundamentality of pluralities of facts (PPs and QQs) as well.

than laws of nature. The grounding physicalist can claim that at the nonphysicalist world, it is a fundamental law of metaphysics that the only fundamental facts are mental, and at a physicalist world, it is a fundamental law of metaphysics that the only fundamental facts are physical. If the nonphysicalist law of metaphysics supports the Idealist Counterfactual while the physicalist law supports the Physicalist Counterfactual, then we could explain why some worlds are physicalist and others are nonphysicalist. Of course, this suggestion raises many questions that I do not have space to investigate here. For example, what are laws of metaphysics and what logical form do law propositions have? How can we combine an appeal to laws of metaphysics with an account of grounding physicalism? More specifically, can we combine an appeal to laws of metaphysics with an account of grounding physicalism that invokes modes of presentation or sentential ground? And what form should these laws take if the world lacks a fundamental level? These are open questions that are worthwhile for the grounding physicalist to explore if they aim to accommodate a variety of identity theories.

VI. Conclusion

I have discussed a series of issues mind-body identity theories pose for grounding characterizations of physicalism. As Jenkins and Wilson originally pointed out, standard accounts of grounding physicalism that uphold irreflexivity cannot treat certain mind-body identity theories as physicalist. I argued that we cannot automatically solve this problem by dropping the irreflexivity constraint (weak grounding physicalism) or by adopting a disjunctive characterization (disjunctive grounding physicalism). Both characterizations are too coarse-grained. We can appeal to certain resources, such as modes of presentation and sentential ground, to ensure that our characterization of physicalism is sufficiently fine-grained to distinguish physicalist and nonphysicalist identity theories. While these proposals make progress in accommodating identity theories, there remain open questions about what renders certain worlds physicalist and others nonphysicalist.

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