Trivial and Non-Trivial (yet Difficult) Physicalism

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Abstract: According to physicalism, everything is physical, namely there are no entities (or no more restricted sorts of entities) that are not physical. In this paper, I shall examine the truth of this thesis by presenting a triviality objection against physicalism that is somewhat similar to the one advanced against presentism. First, I shall distinguish between two different definitions of the physical (roughly, every entity is physical-1 iff (if and only if) it has some definite feature F regardless of specific physical theories, such as impenetrability or exact spatio-temporal location, while every entity is physical-2 iff it is accepted by some ideal, true,complete physical theory) and between unrestricted and restricted versions of physicalism (according to the former, physicalism is true for every entity, while, according to the latter, it is true only with regard to some restricted domains of entities). Second, I shall argue that physicalists have to deal with six different problems: the triviality of some versions of physicalism; the content-indeterminacy of the physical; the justification of the "faith" according to which we will formulate an ideal, true, complete physical theory (given the definition of the physical-2); the restricted domain problem (restricted versions of physicalism seem not to rule out the existence of seemingly non-physical entities); the (possible and plausible) incompatibility between the two different definitions of the physical, and the extension of the physical investigation problem.

Keywords: Physicalism; Triviality Objection; Ontology of Mind; Physical Properties

Physicalism is the metaphysical thesis according to which, roughly, everything is physical, meaning that there are no entities (*or* more restricted sorts of entities: properties, events, objects, etc.) that are not physical. However, as has been recently shown by many authors (see, among others, Ney 2008 and Stoljar 2010), it is really difficult to define physicalism perspicuously. What is it for something to be physical? What is the domain of entities for which physicalism is true? If physicalism is true, is it necessarily or only contingently true? In this paper, I shall take my cue from a suggestion made by Crane and Mellor (1990), concerning the distinction between two different notions of the physical, to argue that physicalists have to answer a triviality objection similar to the one advanced against presentism and that, even if there are formulations

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of physicalism that can escape this objection, it is nevertheless hard to justify their truth.

In brief, the triviality objection against presentism runs as follows (see, for example, Crisp 2004): according to presentists, everything is present, meaning that there are no entities that are not present. However, if presentists claim that there are *presently* no entities that are not present, presentism is trivially true, while, if they claim that there are *unrestrictedly* no entities that are not present, presentism is obviously false, since the domain of entities over which our existential quantifier ranges comprises entities (such as Julius Caesar) that existed in the past but do not exist anymore. Given some formulations of physicalism that I shall present (the ones that restrict quantification to physical entities), physicalism could turn out to be trivially true, while, given other formulations of physicalism (the ones that do *not* restrict quantification to physical entities), the truth of physicalism could turn out to be hardly justifiable, even though this could not imply that, unlike presentism, physicalism is obviously false. Thus, the analogy between the two cases lies in the alleged triviality of some formulations of physicalism – the restricted ones – and the difficulty of justifying the truth of both doctrines when they are formulated without restrictions. Such a difficulty could perhaps be more easily overcome in the case of physicalism, even though the two aforementioned notions of the physical would have to be modified somewhat by the physicalists. However, my sole aim in this paper is to show the difficulties facing physicalists who accept the aforementioned notions of the physical.

1. *Forms and Formulations of Physicalism*

We may first consider two different forms of physicalism, namely:

(A) there are no entities that are not physical;
(B) there are no entities that are not physical or that do not have some relation R with some physical entity/entities.

These preliminary formulations may be restricted to categories of entities (e.g., one might state that there are no properties that are not physical). However, I shall not consider such restrictions here, since my task consists in examining the validity of physicalism *per se*. Furthermore, one might claim that relation R should be identified with supervenience or realization or fundamentality or whatever. The idea behind (B) is that, even if there are entities that are not physical, such entities have some sufficiently strong relation with physical entities. So far, so good. Yet how can we interpret the expression "there are"

here? And how can we define the "physical"?

In general, it is possible to distinguish two different conceptions of the "physical". According to the first, for every entity, that entity is physical-1 iff (if and only if) it has some definite feature F that does not involve any reference to particular physical theories (e.g., with regard to objects, impenetrability, exact spatio-temporal location, and so on, or, with regard to properties, their conferring causal powers or their being instantiated by concrete objects, and so on). According to the second conception of the physical, for every entity, that entity is physical-2 iff it is accepted as an entity by some ideal, true, complete theory of fundamental physics. In order for something to be physical, it is not sufficient for it to be accepted by the best current theory of fundamental physics, since such a theory might turn out to be false and physicalism might thus be false too (this is the first horn of Hempel's Dilemma). Philosophers generally agree in considering some ideal physical theory that will (perhaps) be formulated in the future as the basis for the definition of the physical-2, even if, as we shall see, they have to deal with the second horn of Hempel's Dilemma.

What about the domain of quantifiers? It is reasonable to assume that there are three possibilities here: we can restrict the domain of the existential quantifiers to physical-1 or physical-2 entities, or we can state that there are (unrestrictedly) no entities that are not physical. If we combine such possibilities with regard to (A), we obtain several versions of physicalism:

(1) there are (unrestrictedly) no entities that are not physical-1;
(2) there are (unrestrictedly) no entities that are not physical-2;
(3) there are physically-1 no entities that are not physical-1;
(4) there are physically-1 no entities that are not physical-2;
(5) there are physically-2 no entities that are not physical-1;
(6) there are physically-2 no entities that are not physical-2.

If we combine them with regard to (B), we obtain other, more complex versions:

(7) there are (unrestrictedly) no entities that are not physical-1 or that do not have some relation R with some physical-1 entity/entities;
(8) there are (unrestrictedly) no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities;
(9) there are physically-1 no entities that are not physical-1 or that do not have some relation R with some physical-1 entity/entities;
(10) there are physically-1 no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities;
(11) there are physically-2 no entities that are not physical-1 or that do not

have some relation R with some physical-1 entity/entities;

(12) there are physically-2 no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities.

I have excluded mixed formulations, such as

(13) there are physically-2 no entities that are not physical-1 or that do not have some relation R with some physical-2 entity/entities,

as they are far from clear or justified (why do we have to assume two different conceptions of the physical within the disjuncts?). Furthermore, the adverbs "physically-1" or "physically-2" in the expressions "there are physically-1" and "there are physically-2" do not stand for any kind of existence: they are only used to restrict the domain of the existential quantifier to some sub-domains (the domains of physical-1 or physical-2 entities). Finally, I have not considered the modal aspect of such definitions, as I am only interested here in considering the truth of physicalism in the actual world. In fact, the (weak) thesis according to which physicalism is true *at least* in the actual world is more defensible than the (stronger) thesis according to which physicalism is necessarily true, which obviously implies the former thesis.

2. *Evaluating the Formulations*

With regard to

(1) there are (unrestrictedly) no entities that are not physical-1,

we might argue that such a definition of physicalism would plausibly make it false. First, considering advances in physics, notions such as impenetrability or definite spatio-temporal location might well turn out to be inadequate to express what it is for an entity to be physical. More precisely, we should consider the following question: if physics recognized that not all entities were physical-1 (at least, given our current definitions of physical-1), would it be reasonable to maintain that (1)? It seems to me that it would not. Secondly, (1) expresses too strong a view of physicalism: if we accept that there are mental objects (or properties or states) and that they are not identical with physical-1 objects (or properties or states), then (1) turns out to be obviously false. Many contemporary physicalists seem to agree with this hypothesis, recognizing both that it is false that the mental is identical with the physical and that there are (at least some kinds of) mental entities. The second solution, namely

(2) there are (unrestrictedly) no entities that are not physical-2,

turns out to be indeterminate with regard to its content. In this perspective, nothing seems to rule out the possibility of some ideal, true, complete physical theory recognizing the existence of strange entities that have powers or properties traditionally attributed to non-physical-1 entities and/or, more generally, powers or properties that are now unknown. What reasons do we have at present for denying such a possibility (even if Smart 1978 does not agree, in a rather dogmatic way) (see also Nagel 1965)? Moreover, (2) still needs to be justified: why do we have to claim that there are (unrestrictedly) no entities that are not physical-2, i.e., entities that are accepted in some ideal, true, complete theory of a specific science (physics)?

If we restrict the investigation (conducted) by physics to the fundamental structure of *material* nature (i.e., of some part of reality, defined by concepts such as the ones introduced under the label "physical-1"), we obtain

(4) there are physically-1 no entities that are not physical-2.

It seems to me that those who accept (4) have to deal with at least two problems. First, nothing seems to guarantee that our current definitions of the physical-1 will provide reasons for accepting that every physical-1 entity will be a physical-2 entity too. Some ideal, true, complete physical theory might deny that all or some fundamental or non-fundamental physical-2 entities are impenetrable, or that they have definite spatio-temporal locations, so that physical-1 entities would turn out not to be physical-2 entities. Second, by restricting the domain of entities, (4) rules out the possibility neither of there being (unrestrictedly) entities that are traditionally considered non-physical (or that have powers or properties traditionally attributed to non-physical entities), nor of such entities not obeying physical-2 laws. A similar problem is posed by versions such as (3), (5), (6), (9), (10), (11) and (12) too, albeit in different respects, as we shall see. This problem takes the following form: under some restrictions of the quantifier, the definition of physicalism turns out to be trivially true and does not rule out the existence of seemingly non-physical entities; under some other restrictions of the quantifier, it turns out to claim something false or hardly justifiable.

Furthermore, physicalists typically aim to prove that (unrestrictedly) every entity is a physical entity. Thus, restricted formulations do not adequately grasp the intentions of most physicalists and, even if some formulations might turn out to be non-trivially true and justifiable, might be too weak for them.

It is trivially true that

(3) there are physically-1 no entities that are not physical-1,

and this sort of definition provides no grounds for the non-existence of non-physical-1 entities. Examining this case with regard to the physical-2, the same thing seems to happen with

(6) there are physically-2 no entities that are not physical-2.

Finally, it is *not* trivially true that

(5) there are physically-2 no entities that are not physical-1,

even if, given that we do not *now* know (and shall, presumably, not know for many years) what it is for an entity to be a physical-2 entity, we cannot now justify the truth of (5). Furthermore, (5) does not rule out the (unrestricted) existence of non-physical-2 entities.

This short examination of (1)-(6) has (perhaps) clarified the reasons why many physicalists do not currently argue against the (unrestricted) existence of non-physical entities. The definitions provided by (7)-(12) are commonly considered more attractive, since it seems to be less hard to defend them.

With regard to

(7) there are (unrestrictedly) no entities that are not physical-1 or that do not have some relation R with some physical-1 entity/entities,

a problem that I have already mentioned with respect to (1) emerges: the problem of the (possible and plausible) incompatibility between our current definitions of the physical-1 and the features of the physical-2. Some ideal, true, complete physical theory might provide us with entities that are not physical-1.

On the other hand, if we consider

(8) there are (unrestrictedly) no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities,

we cannot determine the content of the physical-2 for now, and nothing rules out the possibility of there being physical-2 entities (or entities having some relation R with physical-2 entities) that many physicalists would not now accept as physical entities (under the qualification of physical-1 entities).

The definition provided by

(9) there are physically-1 no entities that are not physical-1 or that do not have some relation R with some physical-1 entity/entities

is trivially true (with respect to the first disjunct) and does not rule out the existence of non-physical-1 entities (or of entities that are not R-related to physical-1 entities).

With regard to

(10) there are physically-1 no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities,

one might observe that it does not rule out the existence of seemingly non-physical entities, even if (10) is not committed to the claim that every physical-1 entity is physical-2 as well (as was the case with (4)), since it only affirms that every non-physical-2 entity (within the domain of physical-1 entities) has some relation with some physical-2 entity/entities.

The physicalists who accept

(11) there are physically-2 no entities that are not physical-1 or that do not have some relation R with some physical-1 entity/entities

have to face the (possible and plausible) incompatibility between the physical-1 and the physical-2: why do we have to affirm that every physical-2 entity is physical-1 too, or that it is R-related to some physical-1 entity/entities? Secondly, by restricting their domain of quantification, they do not rule out the existence of (seemingly) non-physical-2 entities.

Finally, the first disjunct of

(12) there are physically-2 no entities that are not physical-2 or that do not have some relation R with some physical-2 entity/entities

is trivially true, while the second is not problematic, even if the aforementioned restriction problem still arises.

Thus, the definitions provided by (7)-(12) avoid some but *not all* the difficulties marking the first group of definitions.

3. *Six Problems for Physicalists*

This examination seems to have brought the following problems to light:

(a) the *triviality problem*: some formulations of physicalism are only trivially true (with regard to (3), (6) and the first disjuncts of (9) and (12));

(b) the *physical-2 content-indeterminacy problem*: we do not know at present what it is for an entity to be a physical-2 entity, so that seemingly non-physical-1 entities (or entities that have similar features to the ones traditionally ascribed to non-physical-1 entities) might turn out to be physical-2 entities, or at least acceptable within a physical-2 framework (with regard to (2), (4), (5), (6), (8), (10), (11) and (12));

(c) the *restricted domain problem*: as some formulations of physicalism restrict the domain of quantification, nothing rules out the possibility of there being (unrestrictedly) seemingly non-physical entities (with regard to (3), (4), (5), (6), (9), (10), (11) and (12)). Moreover, the restricted formulations of physicalism are too weak for most physicalists;

(d) the *(possible and plausible) incompatibility between the physical-1 and the physical-2 problem*: it is guaranteed neither that every physical-1 entity will be a physical-2 entity as well (or that it will be at least R-related to some physical-2 entity/entities), nor that every physical-2 entity will be a physical-1 entity too (or that it will be at least R-related to some physical-1 entity/entities), nor that some ideal, true, complete physics will provide us with physical-1 entities *only* (with regard to (1), (3), (4), (5), (7), (9), (10) and (11));

(e) the *definition of physical investigation problem*: if physics only investigates the fundamental structure of *material* or *physical* reality (i.e., of some distinct part of reality that is labeled as "material" or "physical" under some qualification that still has to be explained), then physicalists still have to demonstrate that there are (unrestrictedly) no entities that are not part of material or physical reality and still have to define what is material or physical. Unless we aim to identify physics with fundamental ontology (i.e., the investigation of the fundamental structure of reality *simpliciter*), we still need some notion of the physical-1 to restrict the domain of physical investigation in order to claim that there are only physical entities (or entities that are R-related to physical entities). Yet that notion might turn out to be incompatible with the notion of the physical-2, given the problem (d). I do not think that this problem will affect the status of physics *qua* science: one could perhaps maintain that there is a domain of entities investigated by physics (under a more or less vague notion of the physical-1 or under some epistemic determination), even without assuming that those entities are all there is. I merely aim to show the difficulties of accepting a *metaphysical* doctrine like physicalism.

There is one further problem with regard to the physical-2:

(f) the *physicalist-2 "faith" problem*: those who "believe" in physical-2 entities "believe" that there will be *only one* ideal, complete, true physical theory and that such a theory will be formulated in the future.

Yet physicalists might reply that we do not have to justify the truth of physicalism: perhaps physicalism is only primitively true, or is only an attitude toward the relationship between physical and metaphysical investigation (see, for example, Melnyk 1997 with regard to current physics), or is more acceptable

than non-physicalist doctrines, since it is more ontologically economical and/or elegant. On the one hand, however, I do not understand why physicalism should be considered primitively true, given the aforementioned problems regarding the definition of the physical. On the other hand, considering the relationship between physical and metaphysical investigation, every coherent physicalist should recognize that, given problems (b), (d) and (e), defining the first term of such a relation is problematic (at least, with regard to its content). Finally, physicalists-1 might (perhaps) construct more economical ontological theories (provided that they do not accept non-physical-1 entities), but nothing guarantees that such theories will be true and that they will be consistent with the results of the future physical investigation. In turn, physicalists-2 cannot determine the content of their ontological theories now, so they cannot determine now whether such theories will be more or less economical (and/or elegant) than alternative theories.

So it may well be true that being a physicalist is a harder task than it might appear. Moreover, I think that these problems might perhaps suggest that metaphysicians should go beyond the opposition between physicalism and anti-physicalism in many debates and look for other ways to determine opposing metaphysical positions.

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