

## On the Prospects of Confined and Catholic Physicalism

Andreas Hüttemann

### 1. Introduction

In this paper I want to distinguish various forms of physicalism, and analyse to what extent they can be warranted by the exclusion- or causal completeness argument. Focussing on the causal closure principle I would argue that it suffices at most to establish monism rather than physicalism.

### 2. Microphysicalism and Identity-Physicalism

Traditionally what was later to be called ‘materialism’ was tied to atomism or some other form of corpuscularianism, as for instance in Lucretius or Hobbes. According to this view, everything that happens, happens in virtue of atoms or other tiny corpuscles. Today’s successor of traditional materialism is microphysicalism. It holds that ‘actually (but not necessarily) everything non-microphysical is composed out of microphysical entities and is governed by microphysical laws’ (Pettit 1994, 253). Microphysicalism thus asserts an ontological priority of the micro-level, a ‘dictatorship of the proletariat’ as Pettit put it. Microphysicalism makes (at least) two claims. The first claim is about the relation of parts and wholes. The laws that pertain to the parts of compound systems govern the compound systems as well. Put differently: The properties of the parts hegemomically<sup>1</sup> determine the properties of the compound.

The claim about the relation of properties of parts and wholes is not the only one. The microphysicalist furthermore assumes that *everything* is governed by microphysical laws. In other words: there are *no* properties, but properties which are hegemomically determined by those of the parts. *A fortiori*, if there are macro-properties such as mental properties, they have to be identical with micro-based properties, given the truth of microphysicalism.

Identity- or levels-physicalists defend a weaker form of physicalism. They defend the view that mental properties are identical to, or realized by, physical properties. How these physical properties are in turn related to the properties of the constituents of the system in question, remains outside the scope of identity- or levels-physicalism. David Papineau, for instance, defends the view: ‘that physicalism is best conceived as a thesis of identity between conscious properties and material properties’, where material properties are either physical properties or higher properties realised by physical properties

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<sup>1</sup> Why ‘hegemomically’? Because determination simpliciter may be mutual. The determination has to be hegemomical in some sense in order to capture the idea that everything happens *in virtue* of the parts – otherwise there would be no a dictatorship of the proletariat (Hüttemann 2004).

(Papineau 1998, 373).<sup>2</sup> In this paper I am going to exclusively discuss levels- or identity-physicalism.<sup>3</sup>

### 3. The Exclusion-Argument

The main argument for levels- or identity-physicalism is the exclusion-argument, or causal completeness argument, as it is sometimes called. Its starting point being the following four statements, each of which seems fairly plausible on its own. Taken together, however, they are incompatible.

- (1) Mental events have physical effects.
- (2) Causal closure of the physical: All physical effects have sufficient physical causes.
- (3) The physical effects of mental events are not always overdetermined.
- (4) Mental events are not physical events.

You can use any three of the above to argue that the fourth must be false. However, most often physicalists take (1) to (3) to be an argument for the identity of mental and physical events or properties. This rejection of (4) on the basis of (1) to (3) is the exclusion argument. It rests on the assumption that a rejection of one of the premises (1) to (3) is less plausible than a rejection of (4).

One such alternative option is the rejection of the causal closure principle and the keeping of (1), (3) and (4). Scott Sturgeon has argued along these lines. He argues that ‘physical’ in (1) and (2) is used equivocally. While (2) is plausible in one sense it has to be rejected if ‘physical’ is read in the same sense as in (1).<sup>4</sup> Another option is to reject (1). This is epiphenomenalism. However, epiphenomenalism is generally taken not to be a very attractive option. It postulates that mental states are causally inert in order to uphold the claim that mental and physical properties are distinct. Epiphenomenalism is not an option that is taken seriously anywhere else in science, so why should it be taken seriously when it comes to the relation of the mental and the physical?

A fourth option is causal Compatibilism. Causal compatibilists reject the no-over-determination thesis (3) and keep (1), (2) and (4). Terence Horgan, for example, holds:

Causal Compatibilism claims that even though physics is causally closed, and even though mental properties are multiply realizable and hence not identical to physical causal properties, mental properties are causal properties nonetheless. This position asserts that there is genuine causation and genuine causal explanation at multiple descriptive/ontological levels, and that despite the causal closure of physics, physics-level causal and causal explanatory claims are not really incompatible with mentalistic causal and causal explanatory claims. (Horgan 2001)

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<sup>2</sup> For a discussion of this distinction see Hüttemann and Papineau (forthcoming).

<sup>3</sup> I have discussed microphysicalism in Hüttemann 2004.

<sup>4</sup> As he puts it ‘the plausibility of causal closure and mental impact trade on different readings of “physical”’ (Sturgeon 1998, 416). Sturgeon’s argument has been disputed by Witmer (Witmer 2000).

What Horgan rejects is not the no-overdetermination principle in general. He rather questions whether the case of the mental and the physical is covered by the no-overdetermination thesis. Statement (3) is a plausible principle as long as the causes are envisaged as independent. Thus (3) is rejected as being relevant to the mental/physical case.

I will not discuss these alternative options, but rather go along with the physicalist reading of the argument and will point towards certain of its weaknesses. In particular I will first introduce two kinds of identity-physicalism, and will then have a closer look at whether the exclusion argument does indeed support one of these versions.

#### 4. Confined Physicalism vs. Catholic Physicalism

Let me distinguish two different versions of identity-physicalism. These versions differ with respect to what they take to be their basic physical properties.

Confined physicalism confines the basic properties to physical properties in a strict sense. Chemical, biological and neuro-biological properties do not count as physical. Thus, confined physicalism holds that not only mental but also chemical, biological and neuro-biological properties are ultimately identical to, or realized by, physical properties in the confined sense.

Catholic physicalism on the other hand has a broad conception of the physical. Chemical, biological as well as neuro-biological properties count as physical properties. Catholic physicalism holds that mental properties are identical to physical properties in this broad sense.

According to Kim, for example,

the physical domain must also include aggregates of basic particles, aggregates of these aggregates, and so on, without end; atoms, molecules, cells, tables, planets, computers, biological organisms, and all the rest must be, without question, part of the physical domain. (Kim 1998, 113).

Thus, Kim is a catholic physicalist, so is David Papineau who identifies the physical and the non-mental.<sup>5</sup>

Let me add that there are all kinds of intermediary positions between confined and catholic physicalism; those I present are just two extreme positions one might hold with respect to what counts as the reductionist basis.

Confined physicalism is the stronger of the two positions. If it is true that mental properties reduce to physical properties in the confined sense then it is *a fortiori* true that they reduce to physical properties in the catholic sense. Confined physicalism entails catholic physicalism but not *vice versa*.

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<sup>5</sup> David Papineau (1998). Though he has moved away from this position again to a more confined version. See his 2002, 40–44, where he explicates the physical in terms of the inanimate.

## 5. Two Versions of the Exclusion-Argument

The fact that we have two different kinds of identity-physicalism depending on what we take the physical to be, gives rise to two versions of the exclusion-argument – again depending on our notion of the physical.

I. Argument for *confined* physicalism:

(5) Mental events have physical<sub>conf</sub> effects.

The claim is that mental events have physical effects in the strict sense of physical. This claim seems unproblematic. An example would be my longing for a beer. A physical effect in the strict sense might be the opening of the refrigerator door (or the movements of the molecules of which the door is constituted).

(6) All physical<sub>conf</sub> effects have sufficient physical<sub>conf</sub> causes.

The physical in this strict sense is causally closed. Whenever there is a physical effect in the strict sense, it is possible to assign a physical cause in this strict sense (if it is possible at all).

(7) The physical<sub>conf</sub> effects of conscious causes are not always overdetermined.

(8) Mental events are identical to (or realized by) physical<sub>conf</sub> events.

II. Argument for *catholic* physicalism:

(9) Mental events have physical<sub>cath</sub> effects.

Here we can think of muscle contractions as physical effects of mental events (such as longing for a beer), since the biological is part of the physical in the catholic sense.

(10) All physical<sub>cath</sub> effects have sufficient physical<sub>cath</sub> causes.

If there is a physical effect, such as a muscle contraction, we are always able to assign a physical cause for its occurrence (and that may include biological causes).

(11) The physical<sub>cath</sub> effects of conscious causes are not always overdetermined.

(12) Mental events are identical to (or realized by) physical<sub>cath</sub> events.

I will now have a closer look at whether the different causal closure principles suffice to establish the one or the other version of physicalism.

## 6. Causal Closure of the Physical in the Catholic Sense

Let's start with catholic physicalism. What might be the motivation for defending catholic physicalism? Catholic physicalists might of course defend the stronger version of physicalism as well, but then they are confined physicalists. I will deal with that position in the next section. But what about catholic physicalists who reject the stronger claim or at least remain agnostic about it? It has the advantage of claiming less. So it might seem that evidence is easier to come by. For example, it might seem that emergent biological properties are compatible with catholic physicalism. Kim, for example, explicitly allows biological systems to have emergent causal powers (Kim 1998, 117).

The question I want to ask is this: Is it plausible to assume that the physical in the catholic sense is causally closed if – at the same time – one remains either agnostic with respect to the causal closure of the physical in the confined sense, or if one even assumes that the causal closure of the physical in the confined sense fails?

A catholic physicalist who holds that the physical in the confined sense fails to be closed has to assert the following two claims:

It is *not* the case that all  $\text{physical}_{\text{conf}}$  effects have sufficient  $\text{physical}_{\text{conf}}$  causes, i.e., (6) is false.

It is, however, the case that all  $\text{physical}_{\text{cath}}$  effects have sufficient  $\text{physical}_{\text{cath}}$  causes, i.e., (10) is true.

Taken together these two claims amount to the following: there are physical effects in the confined sense that have *non*-physical causes in the confined sense, e.g. biological causes that cannot be identified with physical causes in the confined sense. This is what Kim explicitly allows for. Biological properties might be emergent because, even though their causal powers are determined by the micro-structure, we are unable to explain these causal powers. Allowing (6) to be false is therefore tantamount to the admission that our reductionist aspirations are less successful than it has been assumed.

My point is this: If it is admitted that our attempts to reduce the causal powers of macro-properties to underlying structure fail even in the realm of the biological or the chemical vis-à-vis the physical in the confined sense we have even less reason to believe that mental causal powers can be reduced to, say, neuro-biological structures. It seems to me, that if there is any evidence at all for the successful reduction of macro-causal powers to underlying powers, this evidence is to be found among chemical or biological properties. The evidence we have for the successful reduction of mental causal powers such as 'longing for a beer' is certainly rather meagre.

Thus, if catholic physicalists reject (6), if they for example allow for emergent biological powers, this implies that the present state of our explanatory enterprise is taken to indicate that biological properties cannot be explained in terms of physical properties (in the confined sense). But if emergent biological causation is allowed for, I do not see

what reasons we might have to disallow emergent mental causation. And if there is emergent mental causation the physical in the catholic sense would not be closed.

So my argument is this: rejecting or remaining agnostic with respect to (6) undermines (10) given the present state of reductionist explanations with respect to causal powers (unless one already presupposes that there is nothing outside the domain of the physical in the catholic sense, but that was supposed to be the conclusion, not one of the premises, of the exclusion argument).

If we have good reasons – on the basis of present causal-reductionist explanations – to assume that the physical in the confined sense fails to be closed, then the evidence for holding that the physical in the catholic sense *is* closed, seems to be rather meagre.

Thus I think that catholic physicalism, if defended by the causal closure argument, is not a stable view. It turns out to be implausible if (6) is allowed to be false, or it reduces to confined physicalism if (6) is taken to be true.

## **7. The Exclusion Argument and the Physical in the Confined Sense**

### **7.1. What Do We Need the Causal Closure Principle For?**

So let me turn to confined physicalism.<sup>6</sup> What I want to argue is that the causal closure principle can be given a weak reading and a strong reading. The weak reading can be empirically validated but does not suffice to establish physicalism, the strong reading, on the other hand, is needed in the exclusion argument for physicalism, but it cannot be validated in a non-question-begging way. I will approach this issue by asking what the job of the causal closure principle is supposed to be.

There are two cases. First case: We have no scientific evidence yet that a certain mental state is correlated with a physical state. In the absence of such evidence the argument tells us that there will be a physical cause even if we have not yet found it. So the causal closure principle allows us to assume that there is a physical cause that sits at the same place in the causal net as the mental cause in question. We were always able to find physical causes for physical effects so it seems rational to assume the existence of physical causes in this case as well. It leads us to expect such a correlation.

In the second case we already have the relevant correlational evidence. According to these findings properties P and M sit at the same place in the causal net. So the job of the closure principle cannot be to assure us that are such correlations.

What then is its job? According to David Papineau the exclusion argument tells us that the correlations should be read as identities rather than as brute correlations (Papineau 2002, 21). However, if the argument's sole aim was to establish the identity of mental and physical properties, one wouldn't need the causal closure principle.

To see this, assume that we already know that there are the relevant correlations, i.e. that we already know that the mental and physical properties in question play the same causal role. The argument can then be run as follows:

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<sup>6</sup> In what follows, physicalism should be understood as confined physicalism.

- (1) Mental events have physical effects.
- (2\*) There are correlated physical events that play the same causal role as the mental events in (1).
- (3) The physical effects of mental events are not always overdetermined.
- (-4) Mental events are physical events.

Thus the causal closure principle is not needed if one wants to argue for the non-distinctness of mental and physical events (properties).

So if we don't need the causal closure principle for the no-distinctness claim, what then is its purpose?

## **7.2. Monism vs. Physicalism**

The claim I want to defend is this. The exclusion argument, as outlined above, is an argument for monism only. But monism is not necessarily physicalism. The real job of the causal closure principle is to establish this stronger physicalist claim.

So what is the difference between monism and physicalism? Both the monist as well as the physicalist hold that there is ultimately only one kind of property that is responsible for the mental having physical effects. So in a sense both are ontological monists. However, whereas the physicalist thinks the property in question is a physical property, the mere monist maintains that it is a property that can legitimately be described in different ways. It can be described as a physical property and it can be described as a mental property. It will depend on the context as to which description is the more appropriate. Similarly, the monist holds that it is ultimately a pragmatic matter whether causation is described in physical or in mental terms. By contrast, the physicalist holds that there is a fact of the matter, according to which the real cause of an effect is physical. The physicalist assumes that there is an ontological primacy of the physical in the sense that all causation is physical causation.

## **7.3 Kim on the Primacy of Physical Causation**

Here is what Kim has to say about what is established by the exclusion argument:

The real aim of the argument, as far as my philosophical interests are concerned, is not to show that mentality is epiphenomenal, or that mental causal relations are eliminated by physical causal relations; it is rather to show 'Either reduction or causal impotence'. (Kim 2003, 165)

That is very much in accordance with our observation that the exclusion argument establishes monism. However, Kim is not merely a monist, he furthermore embraces the claim that there is a primacy of physical causation. And it is the closure principle that he adduces as evidence for this stronger claim:

It is only when we reach the fundamental level of microphysics that we are likely to get to a causally closed domain. As I understand it, the so-called Standard Model is currently taken to represent the bottom level. Assume that this level is causally closed; the supervenience argument [the exclusion argument, A.H.], if it works, shows that mental causal relations give way to causal relations at the micro-level. And similarly for biological causation, chemical causation, geological causation, and the rest. (Kim 2003, 173).<sup>7</sup>

So what it all boils down to is this: There is a fact of the matter as to why there is an ontological primacy of the physical or rather of physical causation vis-à-vis other kinds of causation. And this fact can be spelt out in terms of the causal closure principle. The job of the causal closure principle is to transcend monism and to establish the ontological primacy of physical causation.

The exclusion argument establishes monism. Whether or not physicalism as the stronger claim can be established depends on what exactly the causal closure principle says.

#### 7.4. The Causal Closure Principle (Completeness of Physics) and the Evidence for It

What I want to argue is that the causal closure principle can be given a weak ontological reading and a strong ontological reading. The weak reading can be empirically validated but does not suffice to establish the primacy of physical causation; the strong reading, on the other hand, suffices to establish ontological primacy of physical causation but it cannot be validated in a non-question-begging way.

The causal closure of the physical or the completeness of physics is an empirical generalization. David Papineau has argued that it was only in the second half of the twentieth century that scientists became convinced of the truth of the completeness of the physical (Papineau 2001). The main point is that we do not need any non-physical forces or laws in order to *explain* what happens in nature. Thus, what the evidence from the sciences points to, is closure with respect to *causal explainability*. Accordingly, some spell out the causal closure principle in terms of causal explainability. Terence Horgan introduces it as

the thesis that every physical event or state (as physically described) is completely causally explainable – to the extent that it is causally explainable at all – on the basis of physical laws plus prior physical event and states, and that the laws of physics are never violated. (Horgan 1997, 165)

For the purpose of this paper I will assume that this reading of the principle is empirically warranted. The essential question is whether this thesis about explainability can be strengthened so as to yield closure principle that suffices to establish the *ontological*

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<sup>7</sup> There does, however, seem to be some sort of tension between the claim that mental causal relations are not eliminated in the first quote and the claim that they ‘give way’ to physical causation in the second.

primacy of the physical causation. What are the ontological implications of successful causal explanations?

One reasonable assumption seems to me the requirement that for some event C being the cause of another event E, C has to *determine* E in some sense (depending on the notion of causation in question, e.g., nomological dependence or counterfactual dependence). If it is assumed that the causal explanation of E in terms of C presupposes the ontological claim that C determines E, Papineau's *weak* ontological reading of the causal closure principle in terms of 'determination' is acceptable:

I take it that physics, unlike the other special sciences, is complete, in the sense that all physical events are determined, or have their chances determined, by prior physical events according to physical laws. In other words, we never need to look beyond the realm of the physical in order to identify a set of antecedents, which fixes the chances of any subsequent physical occurrence. (Papineau 1993, 16)

This weak ontological reading is, however, a far cry from the *strong* reading Kim gives it:

One way of stating the principle of causal closure is this: If you pick any physical event and trace out its causal ancestry or posterity, that will never take you outside the physical domain. That is, no causal chain will ever cross the boundary between the physical and the non-physical. (Kim 1998, 40)

How is the fact that we can *explain* everything in terms of the physical, going to support the conclusion that no causal chains cross the boundary to the non-physical?

Let us have a look at the kind of evidence we have for causal closure. On the one hand we have systems like billiard-balls, where a physical effect is brought about by a cause which is clearly a physical cause, namely another billiard ball. This is uncontroversial evidence even for the strong ontological reading.

But what of the following case: A squirrel is digging for the acorns it has hidden. The process of digging results in some events which might be adequately characterised in terms of physics. So here we have a physical effect, a physical effect that is caused by a biological or physiological event. The cause event consists in certain muscle-contractions etc of the squirrel.

This case certainly does not endanger the completeness of physics as long as we stick with the explanatory and the weak ontological reading. For, firstly, we can presumably explain the muscle contractions of the squirrel in terms of physics (at least in principle), so we have explanatory closure. Secondly, given explanatory closure, the cause (muscle contraction) can be specified in physical terms, and is therefore in one sense a physical cause. This physical cause determines the physical effect. So we have closure of the physical with respect to determination.

But why should we think that our ability to explain the physiological event in terms of physics, makes the physiological cause go away? That is apparently what Kim thinks. In the above quote he suggests that because the Standard model describes the 'fundamental level', it is therefore the level at which causation takes place (Other kinds

of causation ‘give way’). He seems to assume that because elementary particles are fundamental in a compositional sense, they are also fundamental in a causal sense. But that is certainly a claim that needs to be argued for.

Imagine the following counterfactual scenario: At some point in the history of physics we were able to explain the occurrence of every single event in terms of atoms and their interactions. We were able to explain every atomic-physical effect in terms of atomic-physical causes. So here we have causal closure – closure with respect to causal explainability and closure with respect to determination on the level of atomic physics. Some decades later we discover that atoms have constituents. How does this finding undermine the causal closure of the atomic realm? It seems to me that it doesn’t. There is no reason to assume that fundamentality with respect to composition (on its own) implies fundamentality with respect to causation.

To conclude: The evidence we have for causal closure is evidence for closure with respect to explainability. Explainability warrants a weak ontological reading of causal closure in terms of determination, but not the strong reading Kim presupposes. But Kim needs the strong reading to argue for the primacy of physical causation. A fortiori, the causal closure principle, as warranted by empirical evidence, does not suffice to establish the ontological primacy of the physical. In consequence, all we can argue for on the basis of causal closure or the completeness of physics is monism rather than physicalism.

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