

*A note on Bishop's analysis of the causal argument for physicalism.*

1. Ontological physicalism is a monist view, according to which mental properties identify with physical properties or physically realized higher properties. One of the main arguments for this view is the so-called "causal argument", which Papineau summarizes as follows:

Many effects that we attribute to conscious causes have full physical causes. But it would be absurd to suppose that these effects are caused twice over. So the conscious causes must be identical to some part of those physical causes (Papineau 2002: 17).

Papineau (17-18) suggests that we think of this argument as having three premisses:

- (1) Conscious mental occurrences have physical effects.
- (2) All physical effects are fully caused by purely *physical* prior histories.
- (3) The physical effects of conscious causes are not always overdetermined by distinct causes.

Let us call the second premiss the "causal closure of physics" principle. In a recent paper R.C. Bishop (2006) has challenged this premiss by arguing that its formulation involves an assumption that is part of what the causal argument is precisely intended to establish, namely the assumption that:

- (2\*) Only efficacious states and causes are physical.

Hereafter, I shall use the phrase "the hidden premiss" to refer to this assumption. According to Bishop, as a consequence of the hidden premiss the causal argument is question-begging, at least in its aforementioned formulation. In order to gain better understanding of what Bishop has in mind, let us consider the purported example of mental causation he offers us (48). Suppose I am willing to vote "yes" in an assembly. In order to do so I need to raise my arm. In that case, my willingness to vote "yes", a non physical cause  $M$ , is sufficient for triggering my raising my arm, a physical event  $P^*$ . We thus have:

- (A)  $M$  causes  $P^*$  (by premiss 1)

Now, according to premiss (2), there must be a physical (physiological and neurobiological) history  $P$  likely to represent an unbroken causal chain. We thus get:

**(B)**  $P$  causes  $P^*$  (by premiss 2)

So, **A** and **B** display how  $P^*$  is causally overdetermined. But by premiss (3), there supposedly is no case of systematic causal overdetermination, so we have:

**(C)**  $P^*$  is not causally overdetermined by  $M$  and  $P$  (by premiss 3)

So, we must choose between  $M$  and  $P$  as the cause of  $P^*$ . And in virtue of **A**,  $M$  stands as the best candidate. But then the “causal closure of physics” leads us to the conclusion that:

**(D)**  $M$  is identical to  $P$  and causes  $P^*$ .

That is, it leads us to ontological physicalism, precisely.

Therefore, the causal closure principle plays a crucial role in the causal argument, by imposing the identity between  $M$  and  $P$ . The principle makes it possible to overcome the competition introduced by **A** and **B** and to generate **D**.

But now, as Bishop emphasizes, once hidden premiss (2\*) enters the picture, we have:

**(E)**  $P$  exclusively causes  $P^*$ . (2 + 2\*)

As we can see, introducing the hidden premiss makes premiss (3) useless and threatens premiss (1). Each premiss of the causal argument exercises its own pressure towards the conclusion. Indeed, premiss (3) forces the conclusion, without giving up (1) and (2). Introducing premiss (2\*) makes premiss (3) pointless. Interpreting the premiss of the closure this way, by loading it with the weight of the exclusive physical cause, implodes the argument. In our example, it amounts to taking into consideration only the physical history that causes the raising of my arm. Then, **C** is no longer justified; but maybe there is no need for **A** either. What shall we do with premiss (1) - the mental causation premiss -, if causal closure ensures physical exclusivity? The existence of the hidden premiss in the causal argument confronts us with two threats: the dismissal of an argument for physicalism and denial of the mental causation.

2. It takes more than an a priori intuition to justify materialism about consciousness or mind (Papineau 2002: 36-38). The truth of materialism needs be backed up by some argument in its favor. The crucial interest of the causal argument is that it allows materialism to be deduced from three premisses. Premises (1) and (2), which are independent of each other, jointly lead us to the intermediate conclusion of the existence of two causes. However, the existence of these two causes is not symmetrical. Premiss (1) *asserts* the existence of a causal link between the mental and the physical, while premiss (2) *certifies* the existence of a causal link within the physical domain. By imposing a choice between  $M$  and  $P$  and in virtue of closure, premiss (3) calls for an identity between the mental and the physical, that is, for materialism. Now let us consider what makes the first two premisses true.

The truth of premiss (1) rests upon a non-negotiable intuition, namely the intuition that our conscious states produce causes. What supports the premiss is the

counterfactual truth of a statement like “if I had had no willingness to vote ‘yes’, my arm would not have risen”.

The truth of premiss (2) is established in virtue of the “completeness of physics”. Completeness is a distinctive feature of the physical realm: every physical phenomenon that has a cause has a sufficient physical cause. Completeness thus captures a way of talking about instances of causation within the physical domain. Indeed, the mental field, but also the biological, chemical field, do not form a closed domain. There are mental states the causes of which are not mental. The pain I feel in my finger, after I hit it with a hammer has a physical cause. Overexposure to sun can cause a skin cancer (physical / biological). The rising of the temperature of water causes a modification in the links between atoms (physical / chemical). Therefore, premiss (2) occupies a central place in the causal argument, since it is what makes the latter an argument in favor of materialism. This central place, says Bishop, does not allow it to produce an entirely valid inference. Indeed, according to Bishop even if premiss (2) only tells us what happens in the absence of other causes, it nonetheless requires that the only states and effective causes be physical states and causes.

For the conclusion of a philosophical argument to be accepted, all its premisses must be accepted. And for this, the premisses had better be as weak as possible so as to make each of them more likely to be widely accepted and so that their strengths combine towards the intended conclusion. The presence of the hidden premiss reinforces closure and renders the argument unstable. To reach equilibrium in the causal argument, the burden falling onto the premisses must be distributed fairly, and this can be done only by getting rid of the hidden premiss.

3. A number of authors like Papineau (2002: 9), Montero (2003: 177) and Bishop, conflate the notion of closure with that of completeness. It is my contention, however, that they must be clearly distinguished and that by doing so, we can immunize the causal argument against Bishop's objection.

*Completeness* is the term which will interpret premiss (2) as a necessary presupposition of method in physical science (Kim 1996: 148). The Statement “all physical effects are fully caused by purely *physical* histories” shall thus be read as saying that the cause of a physical effect must always be sought only within the realm of physical phenomena. It does not mean that the only efficacious states and causes are physical ones. In his article “An argument for the Identity Theory” (1966: 105), D. Lewis writes:

[This premiss] does not rule out the existence of non-physical phenomena; it is not an ontological thesis in its own right. It only denies that we need ever explain physical phenomena by non-physical ones. Physical phenomena are physically explicable, or they are utterly inexplicable insofar as they depend upon chance in a physically explicable way, or they are methodologically acceptable primitives.

By interpreting completeness of physics as a methodological requisite for the research of causes within the physical domain, completeness and closure are clearly distinguished from one another. The former interprets premiss (2) as occlusion, i.e. by disallowing mental-to-physical causation. Closure is an ontological thesis, which turns into strong closure when one takes on the hidden premiss (Montero 2003: 175). We can express it as follows:

[Strong closure] Physical effects have only physical causes.

This strong closure principle claims that a non-physical event can never cause a physical event. It is the conclusion of the causal argument. It cannot be used as a premiss in the argument intended to prove it. On the other hand, premiss (2), interpreted as a necessary method of physical science, does not contain the ontological conclusion of the argument.

To exhume the hidden premiss, as Bishop does, amounts to putting forth a premiss of strong closure. But what motivates the move from premiss (2) to strong closure? Here is an answer. Imagine what would happen if a non-physical cause entered the experimental method of physics. Such an event, however curious it may be, is not liable to worry us as regards the principle of completeness. Indeed, in the field of physical experimentation, a non-physical cause could be made manifest only if one of its objects were to exhibit a new and unexpected behaviour. In physical sciences, it is very common to register unusual behaviour of phenomena which in turn are in need of an explanation. An electron for instance, can divide into two while remaining the same particle. So, the principle of completeness cannot go beyond the concern of uncommon behaviour of one of its objects. Consequently, if a non-physical cause were to occur in the physical domain, it would not change the method of completeness. By extracting a hidden premiss from the crucial premiss of completeness in the causal argument, Bishop presupposes a physical answer, as a tool for excluding the mental cause. But completeness as a method does not in itself exclude non-physical causes. What completeness captures is whether there is non-physical causation; in scientific methodology there is no room for a non physical cause as such. If one holds that non-physical causation takes place in physical domain, one must appeal to non-physical entities or properties in order to explain how the same causal chain relate the two domains<sup>1</sup>. Premiss (2) does not rule over this domain.

4. Premiss (2), conceived of as a methodological presupposition of physics, only governs the phenomena which are causes of physical effects and that have sufficient causes themselves. Completeness can therefore represent, in the absence of a non-physical cause, what takes place in the research of causes of any physical effect.

When one observes for instance, that the white powder deposited at time  $t$  in a small dish became blue at time  $t + 1$ , looking for the reason of the blueness will not lead the researcher out of the physical domain<sup>2</sup>. The premiss guiding the research of this cause will be that “all physical effects are fully caused by purely *physical* histories”. The research of the trace or the causal ancestor, in the absence of a non-physical cause, will not make us leave the physical domain. It is indeed the molecular composition of the powder that will put the researcher on the causal trace. In a world where causes of the same kinds would not produce the same effects, the methodological presupposition of physics would remain unchanged. If the blueness of the same white powder at  $t + 1$  in this second world did not take place, or if it were not caused, like in the first world, by the presence of molecules of H<sub>2</sub>O in suspension in the atmosphere, the method of the physicist would remain the same. It would still be based on a set of experiments pertaining to the chemical

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<sup>1</sup> This hypothesis implies that the physical domain is not closed. This amounts to a way back to Cartesian views about the mental.

<sup>2</sup> Anhydrous copper sulfate turns blue in the contact of water.

constitutions of the powder and other molecular influence getting into contact with it. If the research of the causal trace is the research of the salient properties of the cause, the focus of experimentation in physics on the basis of measured or observed effects, will only be physical phenomena.

Completeness as a methodological principle is therefore neutral about mental cause and does not rule out the possible existence of a non-physical cause. However this non-physical cause cannot enter the method of physics. In other words, a non-physical cause cannot come to be integrated in the method of physics. If a mental cause entered the method of physics, it would no longer be a mental cause. If such an event occurred, that would only show that the domain of physics did not have a complete description. The premiss, like completeness or methodological presupposition of physical science, does not therefore amount to the claim that the only efficient states and causes are states and causes. No, completeness is a method that makes it possible to answer the question *how* a physical effect is possible.

5. The equilibrium of the causal argument for physicalism is subtle. By weighing down a premiss, the equilibrium is broken and the argument loses its force. By resisting the existence of a hidden premiss in premiss (2), we regain the lost virtue of the causal argument. Exhibiting the hidden premiss as Bishop does not only weaken the argument for physicalism but also denies mental causation. Premiss (2) as completeness, i.e. as a necessary presupposition of physical science and not as closure excluding the mental, allows the argument to go back to work.

However, says Bishop (p. 51) but also Montero (2003: 176), a weakened premiss does not allow us to produce an entirely valid argument. By considering the premiss as completeness, i.e. as a methodological presupposition of physics, we can nonetheless conclude that materialism is true about the mental phenomena that are causes of physical effects and have sufficient causes themselves. Indeed, the argument focuses only on the cases of physical phenomena as effects and on the existence of cases of states of consciousness as causes. However, even if we base our reasoning on these cases only, it remains preferable to keep the argument going.

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### ***References***

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