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Excluding exclusion: the natural(istic) dualist approach

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The exclusion problem for mental causation is one of the most discussed puzzles in the mind–body literature. There has been a general agreement among philosophers, especially because most of them are committed to some form of physicalism, that the dualist cannot escape the exclusion problem. I argue that a proper understanding of dualism – its form, commitments, and intuitions – makes the exclusion problem irrelevant from a dualist perspective. The paper proposes a dualist approach, based on a theory of event causation, according to which events are medium-grained, namely parsed into mental and physical property components. A theory of contrastive mental causation is built upon this theory of events, for which the problem of exclusion does not arise.

Keywords: Donald Davidson; dualism; exclusion problem; Jaegwon Kim; mental causation

1. Introduction

The exclusion problem for mental causation is one of the most discussed puzzles in the mind–body literature. A solution to it is usually put forward either as an argument particular view in the mind–body debate, or as a way to make such a view compatible with the assumptions which underlie the problem.

The problem has received a great deal of discussion and is by now very familiar. Consider a physical event putatively caused by a mental event. According to the assumption that the physical realm is causally closed, all physical events have sufficient physical causes. Now if the mental event that putatively caused the physical event is distinct from the physical event's sufficient physical cause, then it looks like either the mental event overdetermines the effect, or does not cause it after all.

There have been two main attempts to solve this problem. The first is put forth as an argument for reductive physicalism, and implicitly against nonreductive physicalism and a fortiori against mind–body dualism. The most fervent proponent of this approach over the years has been Jaegwon Kim. The second approach is less combative, and is concerned with saving nonreductive physicalism from the potential danger of either mental–physical overdetermination, or mental epiphenomenalism. Lately, a substantial part of the literature on the problem has focused on this approach.¹

However, there has been a general agreement among philosophers, especially because most of them are committed to some form of physicalism, that the exclusion problem cannot be

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escaped by the *dualist*. Although there have been some attempts from the dualist point of view to respond to the challenge, they either deny the causal closure of the physical, accept the conclusion that mental states are epiphenomenal, or accept an implausibly widespread phenomenon of overdetermination. This is problematic. For whilst the reductive physicalist can happily accept, as a response to the exclusion problem, that we should deny the premise that the mental and the physical are distinct, since that is precisely her doctrine, the dualist is in a worse position if she denies closure or accepts epiphenomenalism, since these are not typically part of the dualist doctrine.

In light of this, it is worth trying to develop a more coherent and systematic dualist approach to the exclusion problem. Although my sympathy lies with dualism, my purpose here is not to argue for dualism, but to argue for its capacity to escape the exclusion problem. I will argue in what follows that a proper understanding of dualism – its form, commitments, and intuitions—makes the exclusion problem irrelevant from the dualist perspective. In order to make this argument, I will: (1) specify the most plausible current version of dualism, (2) formulate a plausible account of causal relate and causal statements with respect to this version of dualism, and (3) examine the consequences for the exclusion problem in light of (1) and (2).

2. Dualism

In order to assess whether dualism can avoid the exclusion problem, we need to get clear on the kind of dualism at issue. The most plausible kind of dualism is very close in a certain respect to physicalism: it in particular wants to keep a clear commitment to *naturalism*. While many physicalists tend to equate naturalism with physicalism, most of the contemporary defenders of dualism believe that dualism can take a naturalistic form. The basic idea is that the physical and the mental realms are ontologically distinct, yet they are tightly connected in actuality by the obtaining of irreducible psychophysical laws. The mental–physical relation is not metaphysically necessary, but still it is nomic, according to the naturalistic dualist.²

A second important point is that naturalistic dualism takes the form of *property dualism*. In opposition to the classical Cartesian substance dualism, property dualism does not presuppose a mental realm as an autonomous substance, capable of existing without any material support and totally disconnected from it. According to property dualism the actual world is populated by essentially material bodies, but they happen to have irreducible mental *properties*, whose instantiation, as we mentioned, is nomologically connected to the instantiation of correlated physical properties.

Next, we should make clear what our dualism is and what it is not committed to. The commitment to psychophysical laws is not a commitment to these laws being causal. The mental–physical property relation is one thing, causation is quite another. The psychophysical laws that property dualism is most concerned with are not causal. They are laws that are responsible for patterns of mental–physical correlation, which translate to a form of nomological supervenience of the mental on the physical. As far as causation is concerned, more theory is needed than what naturalistic property dualism per se offers. That will be the topic of the next section.

A second commitment of dualism is to mental properties being distinct from and irreducible to physical properties. As opposed to physicalism, property dualism holds that at least some mental properties are as fundamental as physical ones, that is, they are not reducible to the latter. Again, this commitment should not be taken as saying anything about the causal powers of fundamental mental properties.³ The fact that some property is fundamental does

not entail anything about the property's causal efficacy, or lack thereof. Again, further argument would be needed to establish causal commitments.

Finally, dualism has some implicit commitments. Two such commitments are important to our discussion: I will call them *the material embodiment of the mental* and *the mental enrichment of the physical*. The former states that actual mental property instantiations are always grounded in physical substrata; they are not free-floating, or do not occur anomalously. This derives from the fact that the property dualist is a substance monist, according to which objects are essentially physical. The latter intuition states in effect that some events with physical properties are enriched by also instantiating mental properties. This enrichment is translated in the language of dualism into statements like 'some movements are actions rather than mere movements', or 'some verbal behavior is meaningful discourse rather than mere emission of sounds', or 'some brain states are desires rather than mere brain states'. This intuition is taken seriously by dualists and, as we shall see, it will play a crucial role in our analysis of the exclusion problem.

3. Causation

In this section I will investigate how the naturalistic property dualist should understand causal relata and causal statements. The causal model that emerges is independently plausible, and is inspired by recent work on causation due to L.A. Paul (2000), Jonathan Schaffer (2005) and Terence Horgan (1989).

We should first deal with the issue of how to understand the causal relata, namely the cause and the effect. Traditionally, causal relata are taken to be events, which can be understood in various ways. The two main candidates have been Davidson-events, which are coarse-grained, spatiotemporally individuated primitive concrete particulars, and Kim-events, which are fine-grained, property exemplifications by objects at times, individuated by ⟨object, constitutive property, time⟩ triples.⁴

For a standard context of difference between the two approaches, consider adverbial modifiers of event names. Let us say that Selma's hitting the window caused the window's shattering. However, suppose Selma's hit had to be, and actually was, powerful, in order to have such an effect. So it is also true that Selma's *powerfully* hitting the window caused the shattering. According to the Davidsonian approach there is only one cause event, with at least two true descriptions of it, since the hitting and the powerful hitting take place in the same spacetime region. However, according to Kim's approach the modifier 'creates' a new distinct event. The first event is constituted by the triple ⟨Selma, hitting the window, t⟩, while the second by the triple ⟨Selma, hitting the window powerfully, t⟩. For Kim, then, every new property that could be exemplified at the given spacetime region creates a corresponding distinct event.⁵

I want to propose a third way to understand events, which, I think, is closer to how a naturalistic property dualist will think about causal relata. It is an approach according to which events are medium grained, and I will call them 'parse events'. The basic idea inspired by the Davidsonian coarse-grained conception and going against the Kimian one is that one and the same event *can* be an exemplifying of more than one *constitutive* property. But in Davidson's view properties have no role in the analysis of causation: it is only a multiplicity of predicates and descriptions that may be at once true of events, which are taken as primitive particulars. Parse events, on the other hand, are precisely characterized by a triple having as elements an object, a set of properties, and a time. As we can see, then, parse events are neither Davidsonian, nor Kimian. The proposed view avoids the overmultiplication of events characteristic of Kimian views, a parsimony that

represents a partial independent reason to go for parse events, and ensures at the same time a role to properties in causation.

My main motivation for the parsed theory of events is an observation to the effect that when it comes to two or more properties exemplified by a particular at the same time it is not the case either that we *always* have prima facie Davidsonian or Kimian intuitions. For instance, in the case of two event descriptions like 'Brutus' killing Caesar' and 'Brutus' stabbing Caesar', standing for events that took place at the same spatiotemporal region, most of us would prima facie think that they refer to a single event. However, when we consider descriptions like 'The ball's spinning' and 'The ball's warming', which again stand for spatiotemporally coinciding events, most of us would say that they refer to two events. In other words, the parsed theory is meant to conform to an observed heterogeneity of our intuitions with respect to event individuation, while both the Davidsonian and the Kimian approach are all-or-nothing views on events, insofar as they give a universal characterization for all events.

If the idea of parsed events were raised simply in order to illustrate the possibility of a metaphysics of events accommodating both Davidsonian and Kimian intuitions regarding specific causes, it would certainly seem less ambitious than the classical approaches. However, the idea is also supported by a criterion for individuating events. Moreover, the heterogeneity of intuitions in particular cases plays an important role in sorting out what ontological factors are at play when deciding about various cases – as I'll now explain.

The method for individuating spatiotemporally coinciding events I propose proceeds in two steps. First, we check whether the descriptions picking out the events pick out properties that belong to the same quality space (cf. Lawrence Lombard 1986). If they do, then the descriptions refer to a single event. If not, we move to the second step, namely to check whether the properties belonging to distinct quality spaces are tightly related, by a relation that is at least nomic. If they are so related, we have a single parse event, with the properties in question as its components. If not, we have two distinct events. Consider the classic examples of Brutus' stabbing/killing Caesar and that of the ball's spinning/warming. In the former case, since stabbing is, in this particular instance, a way of killing, the two properties belong to the same quality space, so our intuition that there is a single event is vindicated. Similarly, in the case of adverbial modifiers: hitting and hitting powerfully belong to the same quality space, so the event descriptions containing these phrases refer to a single event. In the latter case, that of the ball's spinning/warming, we have two properties that belong to distinct quality spaces. Further, there is not even a nomic connection between spinning and warming, so, again, our intuition that we are speaking about two distinct events is vindicated. For a classic example of a parse event, consider a functional dependence of some physical magnitude on some other(s), based on a nomic connection, e.g. the Law of Ideal Gases, according to which $\text{pressure} = \text{temperature}/\text{volume}$. If the two descriptions are 'The gas's reducing its volume' and 'The gas's increasing its pressure', in the context of a constant temperature, then according to the criterion proposed here they refer to a single parse event, having volume reduction and pressure increase as its components.

Let us consider some more examples. According to the parsed theory of events there can be events that are multiple property exemplifications. This is consistent with the existence of events that are exemplifications of only one property. The verdict in each case is given by our intuitions regarding individuation and identity.⁶ As opposed to this, the Davidsonian and the Kimian approaches will not take into account such intuitions of heterogeneity. Take again the classic example of a ball that is both spinning and warming. This is a problematic case for the Davidsonian approach since our intuition is that the warming and the rotating are two distinct events, while according to that approach, since they are spatiotemporally coinciding, they are

one and the same event. According to the parsed theory, in this case there is no single event that is a parsing along the two aspects, the warming and the rotating. Now take another example, which is intended to reveal the advantage of the parsed theory over the Kimian approach. The following sentence is true in the actual world:

(a) Dr. Tim's administering ABVD chemotherapy causes the patient's suffering neurological toxicity.

The sentence says that the administration of ABVD (Adriamycin, Bleomycin, Vinblastine, and Dacarbazine) chemotherapeutic combination will cause damage to the nerves. But the substance that is responsible for such damage is Vinblastine. Yet the sentence makes perfect sense and is actually true. In other words, we have an intuition here that there is a unique event 'Dr. Tim's administering ABVD' defined by a multiplicity of constitutive properties. On the Kimian view of events, however, there is no place for such event, understood as defined by a multiplicity of constitutive properties, but there are at least four events: 'Dr. Tim's administering A, while administering B and V and D', 'Dr. Tim's administering B, while administering A and V', and so on, in accordance with the multiplicity of properties exemplified by the ABVD chemotherapy regimen. There are even more events according to the Kimian account, like: 'Dr. Tim's administering A while administering B', 'Dr. Tim's administering B while administering V', and so on. The parsed theory can conform to our intuition here by saying that the ABVD chemotherapy is a parse event, composed of four constitutive properties, and can offer the following paraphrase for (a):

(b) Dr. Tim's administering ABVD chemotherapy, *qua* Vinblastine-based, causes the patient's suffering neurological toxicity.

What happens here is that (b) refers to the parse event of ABVD chemotherapy while emphasizing an aspect, a property that is its constituent part when it comes to causal relevance. I will return to causal relevance after briefly discussing the importance of properties in causation.

The problem of a place for properties in causation is a pressing one, especially for the property dualist in the context of mental causation. She would like to have a view on just how mental properties act upon the world. On the other hand, what distinguishes property dualism from traditional Cartesian interactionism is that according to the former if there is causal action of the mental in the world, it is not done by an autonomous distinct substance, but rather by the mental aspect of an essentially material substance. In other words, we have two constraints on events: that they are essentially material particulars, and that they have mental aspects.

Paul (2000) proposes a view she calls aspect causation, according to which it is property instances, so-called 'aspects', which are most plausibly taken as causal relata, especially in the context of mental causation. I follow her in awarding a more important causal status for properties than that awarded in coarse-grained theories. The difference is that according to the present theory of parse events it is events as particulars that are causal relata (something it has in common with coarse-grained approaches), but these events can be parsed into component aspects. In addition, there is a structured causal division of labor within parse events along these aspects. Let me explain how this division of causal labor is supposed to work.

As Horgan (1989) points out, when *a* causes *b*, it does not do it simpliciter, but by virtue of possessing some property. So it is always the case that *a* *qua* *F* causes *b* *qua* *G*. For instance, it is *qua* wet that the rain causes the oxidation of my tools *qua* being made of oxidizable metal. Consider now the mind-body context: it is *qua* intention that a brain state causes the rise of a hand *qua* salutation. This quaternary relation Horgan calls 'quausation'. This kind of semantics for causal statements containing names for events, which in turn are constituted by aspects or

properties, is also one of the best ways to express the idea of the subsumption of events under laws. If one accepts, as I do, that in the mind–body case the property duality is present and characterizes both cause events and effect events, then one should also accept that there are mental as well as physical laws.

The property dualist will be especially congenial to Paul and Horgan's insistence on the role of properties in causation, because she would want to say that it is mental properties that are responsible for the instantiation of many other properties in the world. However, as we saw, physical properties also have a special importance in the property dualist doctrine, as they are the nomological correlates of the mental properties. The mental–physical duality advocated by the property dualist creates an appropriate context for contrastivity. This is the last element of the view I propose.

The contrastive approach to causation (Van Fraassen 1980; Hitchcock 1996; Schaffer 2005) questions the assumption that the causal relation is binary, having the form '*c* causes *e*'. Schaffer, for instance, proposes a quaternary relation of the form '*c* rather than *C** causes *e* rather than *E**', where *C** and *E** are nonempty sets of contrast events, and where the context determines in each case the relevant contrast sets, and so the contrast pairs {*c*, *c**} and {*e*, *e**}, *c** ∈ *C** and *e** ∈ *E**.

The idea of contrastivity seems to fit the mind–body duality perfectly. The view of mental causation I propose can be called 'contrastive quausation'. According to it, causation in the actual world takes place among parse events and there is a contrastive causal division of labor within parse events along their aspects, so that the general form of causal statements involving mental causes and effects is:

Contrastive Quausation: event *C* qua *M* rather than qua *P* causes event *E* qua *M** rather than qua *P**,

where *M* and *M** are mental properties and *P* and *P** are physical properties. For an example, consider the context of mental causation related to someone's saluting by raising his hand. It can be formulated like this:

(C1) *C* qua intention to salute rather than qua mere neural activity causes *E* qua salutation rather than qua mere movement of the hand.

Or consider phenomenal mental properties, and the case of someone speaking about the beauty of red roses. It will be formulated as:

(C2) *C* qua phenomenal red rather than qua neural state causes *E* qua meaningful talk about redness rather than qua mere emission of sounds.

Before moving on we should clarify the contrastive approach proposed here, and compare it with standard contrastivism. First, it should be emphasized that the contrastive quausation model, like e.g. Schaffer's contrastivism, is not an analysis of *causation* as such, but a way to understand *causal statements*. On the other hand, Schaffer's standard contrastive account is put forward as a way to emphasize the cause of a certain effect while eliminating another possible cause event, as causally irrelevant. So the contrast events are *eliminated* in the standard approach, as they do not act as causes and are in fact absent in the world, though present in the semantic form of causal statements. In our case the idea is not to eliminate the contrast properties, because they are certainly instantiated and are constituents of the parse events we are working with. For example, in the mind–body case the idea is precisely that both mental and neural properties are instantiated by a subject who acts as a result of a mental/neural event, so we have no reason to eliminate either of them. Rather, the idea is therefore to emphasize

an aspect without eliminating the other. What my proposed semantic form ensures is a clarification of which aspect of the cause is responsible for which aspect of the effect. At the same time we can affirm that event *c* causes event *e* simpliciter. But we won't say that *c* qua *M* causes *e* simpliciter, or that *c* causes *e* qua *M*^{*}, etc. We have two ways to formulate causal relations: one is by appeal to the parse events simpliciter, the other to state the causal structure at play by appeal to the components within such events.⁷

Now that we have explained how a naturalistic property dualist will understand psychophysical causal statements, let us consider the relevance of this for the exclusion problem.

4. Exclusion

In order to see the relevance of the above analysis for the exclusion problem, we must first formulate the problem in a clearer way. The problem basically consists in the incompatibility of the following five propositions:

- (1) Some mental events/properties are sufficient causes of physical effects.
- (2) All physical effects have sufficient physical causes.
- (3) No effect can have more than one sufficient cause unless it is overdetermined.
- (4) Mental events/properties do not overdetermine their physical effects.
- (5) Mental events/properties are distinct from physical events/properties.

The incompatibility relations are as follows. The truth of (1)–(4) implies the falsity of (5), and so implies the truth of reductive physicalism. The truth of (1)–(3) and (5) implies the falsity of (4), and so implies the truth of widespread overdetermination. The truth of (2)–(5) implies the falsity of (1), and so implies the truth of epiphenomenalism of the mental with respect to physical effects. The truth of (1), (2), (4), and (5) implies the falsity of (3), and so implies the truth of the so-called causal compatibilism. Finally, the truth of (1) and (3)–(5) implies the falsity of (2), and so implies the truth of the incompleteness of the physical. The problem is that (1)–(5) seem independently plausible, in which case none of these options seems especially attractive – particularly for the dualist.⁸

The solution provided by the account proposed here consists in accommodating the truth of all five propositions, which is possible given a particular interpretation of proposition (1). The general picture of causal relata offered by the account of parse events sanctions the view that events are consitutively defined by a triple $\langle x, S, t \rangle$, where *x* is an object, *S* is a set of properties that *x* exemplifies, and *t* is the time of exemplification. As we explained, we consider that one and the same event can be a multiple property exemplifying. In the mind–body context, both the cause event and the effect event are parsed along the mental–physical property duality, so that *S* consists of a mental property *M* and a physical property *P*. The cause can be considered then as the triple $\langle x, \{M, P\}, t \rangle$, while the effect as the triple $\langle y, \{M^*, P^*\}, t^* \rangle$, with $t < t^*$. We will call the cause '*c*' and the effect '*e*'. Given this account, motivated by intuitions of the property dualist, like the intuition of the mental enrichment of the physical, there does not appear any a priori reason to either exclude mental properties from the causal network of the world, thus rendering them inefficacious, or to accept overdetermination. The contrastive quausation approach will sanction the following two propositions, which do not imply any causal conflict or competition between the mental and the physical:

(C3) *c* qua *M* rather than qua *P* causes *e* qua *M*^{*} rather than qua *P*^{*}.

(C4) *c* qua *P* rather than qua *M* causes *e* qua *P*^{*} rather than qua *M*^{*}.⁹

Let us start with the danger of overdetermination, as that is quite straightforwardly avoided by the contrastive quausation approach. Overdetermination would be true if the following counterfactuals were true:

- (A) If c had occurred qua M , but not qua also \underline{P} , e would still have occurred.
- (B) If c had occurred qua P , but not qua also \underline{M} , e would still have occurred.

Both of these counterfactuals are false. Let us consider (B), the more important and discussed counterfactual, which states that had the physical cause occurred without the mental cause, the effect would still have occurred. It is false on our property dualist picture, because the physical cause stripped from its mental property cannot cause an effect that is similarly mentally enriched. This, of course, applies only to contexts standardly under scrutiny in the mental causation debate, namely when some mental event with physical underpinning cause *behavior*. It is, therefore, perfectly compatible with purely physical causes (those are not under scrutiny in the mental causation debate) like a hit on the head, bringing about mental effects, like pain. Further, it is also compatible with mentally enriched causes bringing about purely physical effects, for example, my conscious moving of my arm causing the cup's being there rather than here.¹⁰ In any case, when dealing with the standard context of some physical–mental parse event causing behavior, the behavioral effect's being mentally enriched is a function of the cause's being mentally enriched, not as a matter of definition, but rather as a contingent actual empirical fact.¹¹

Turning back to our counterfactual, the purely physical event's effect is an event e^* distinct from e , since the latter is constituted by $\langle y, \{M^*, P^*\}, t^* \rangle$, while the former by $\langle y, P^*, t^* \rangle$. So the counterfactual is false.¹²

Here one may object that (A) and (B) are not the correct counterfactuals to consider. It is rather the following ones that we should prove to be false:

- (C) If c had occurred qua M , but not qua also \underline{P} , e qua M^* , but not qua also $\underline{P^*}$ would still have occurred.
- (D) If c had occurred qua P , but not qua also \underline{M} , e qua P^* , but not qua also $\underline{M^*}$ would still have occurred.

These counterfactuals are probably true, but they are irrelevant from the dualist perspective. Their consequent – the occurrence of a purely physical, i.e. not mentally enriched effect – creates a context in which the issue of mental causes does not even arise. From the dualist perspective, the only physical events of interest are ones which could have occurred due to mental causes. The consequents of (C) and (D) preclude this possibility, and so are of no interest to the dualist.

Another worry one could have is: what is the dualist argument for the view that c qua P causing e qua P^* would not entail the existence of e qua M ? If the existence of e qua M^* is entailed by the causing of e qua P^* , then, the argument goes, the specter of overdetermination threatens again: we don't need to have e qua M^* caused separately, since it already exists if e qua P^* does.

In reply, whilst I don't reject the idea that c qua P causing e qua P^* by itself is enough to entail the existence of e qua M^* , given actual facts and laws, I reject that this is sufficient for overdetermination. Rather than asking whether, given what actually happened, c qua P causing e qua P^* entails e (qua both P^* and M^*), we should ask whether the actual contribution of c qua M in the situation was redundant or whether properties M and P *collaborated* in bringing about e .¹³ According to the theory proposed here, the world is dualistically constituted, so that in mental causation contexts events are parsed along the mental–physical aspect divide. This means that insofar as an effect event has such a dual structure by way of being so constituted, it has it because of the actual contribution and collaboration of the aspects of a similarly dual parse cause event. So it is not true in this case that the contribution of the mental aspect of the cause was redundant for the dual effect event to occur.

I conclude that the danger of overdetermination is avoided if we adopt contrastive quausation. But let us move to the danger of causal inefficacy or epiphenomenalism. As we will see, this danger is more pressing.

According to the contrastive quausation account there is a causal division of labor within parse events, so that certain aspects rather than other of the cause are causally responsible for the occurrence of certain aspects rather than others of the effect. In the mental causation context we set up the two propositions that express this fact – (C) and (D). However, an opponent may respond by saying that contrastive quausation is precisely a way not to solve the exclusion problem since it renders proposition (1) false. Namely it seems to entail that mental causes, by their very nature and role in the causal division of labor within parse events, don't have physical effects. Therefore, contrastive quausation is a form of epiphenomenalism.

My reply is that according to our framework it is a matter of brute fact that causation in the actual world takes place among parse events, and not between aspects of these events. So mental causation is to be understood within this framework. Mental causation does not take place between aspects. This means that if we interpret proposition (1) as saying that:

(1*) Events with mental aspects sometimes cause events with physical aspects,

then our framework allows for the truth of (1)–(5). Of course, according to our framework, the following interpretation of (1) is clearly unacceptable, on grounds independent from the exclusion problem:

(1**) Events qua mental rather than qua physical cause events qua physical rather than qua mental.

So, from the dualist perspective, (1**) is not an acceptable premise to be used in formulating the exclusion problem or in formulating a solution to it.

If the objector insists saying that we should give a 'yes' or 'no' answer to the question 'Is the physical event that is my arm's moving caused by the mental property or by the physical property?', I refuse to answer, as the question involves an unacceptable presupposition – in this way it is on a par with the question 'Have you stopped beating your wife?' As I have insisted, according to contrastive quausation there are two ways of interpreting proposition (1) – as referring to parse events, or as referring to aspects of those events. The former interpretation yields the truth of (1), while the latter its falsity. But the former, and not the latter, is the independently acceptable way of thinking about mental causation according to dualist intuitions.

A further objection is the following. In the contrastive causal sentences it is plausible to think that the causation at work in the case of mental and physical components is, respectively, different. In the physical case we have a so-called 'oomphy' notion of causation, characterized by transfer of 'causal juice', most plausibly energy, while in the mental case we have causation as dependence. If this is the case, then contrastivity comes out as trivial.

In reply, I want to point out that my account is supposed to be compatible with both the contrastive formulation of causal sentences and with the formulation 'c causes e'. This means that I am not using different notions of causation, but a general notion, based, as it is plausible to assume, on laws of nature and counterfactual dependence. In my account causation takes place among events rather than among properties, which is why we need a notion of causation neutral between the oomphy view of physical causation and the dependence view of mental causation.¹⁴

As for the danger of having to accept the falsity of the causal closure of the physical realm, it is quite straightforwardly avoided by our proposal: causation between parse events in the mind–body context takes place along independent, mental *versus* physical, aspects of those events, so

that there is no interference with the empirical thesis of causal closure. Furthermore, we can even reformulate the thesis within my framework:

(Causal Closure*) For any event e having a physical aspect P^* , there is an event c , having a physical aspect P , such that P is sufficient for e 's having P^* .

Therefore, contrastive quausation can accommodate (1)–(5).

Finally, a few words are needed about causal laws in the putative cases of psychophysical causation. The naturalistic property dualist believes in psychophysical correlation laws. These state regularities of synchronic covariation between the mental and the physical realm. At the same time, the physical realm is characterized by causal laws. These state regularities of diachronic covariation among physical property instantiations, relating them as cause and effect. Now the question, which I have raised in Section 2 of the paper, is whether the mental–physical diachronic relation is causal or not. The answer is that if we take a regularity view of causation (recall that the contrastive quausation model is not an analysis of *causation* as such, just a way to understand *causal statements*), then we can assert that the mental–physical diachronic relation is causal, since we can derive a causal law, a regularity, from the existence of mental–physical synchronic correlation laws and the physical–physical diachronic covariation laws. So, for example, from (1) the law that an intention I always co-occurs with neural property N , and (2) the law that the instantiation of neural property N is always followed by a movement of the arm M , we can derive the indirect causal law that I is always followed by M . If that is sufficient for causation (which is *prima facie* doubtful, as long as we hold that causation does not involve overdetermination), then we have one more reason to believe in mental causation in the present framework. However, that is a big 'if', which is beyond the scope of this paper.¹⁵

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Notes

1. For one of the most recent proposals and citations of previous attempts in this direction see Karen Bennett (2003).
2. Naturalistic forms of dualism have been proposed and defended by, e.g., David Chalmers (1996) and Tim Crane (2001).
3. It is surprising then that one of the most well-known arguments for property dualism, Frank Jackson's knowledge argument (1982), is presented by Jackson not only as having an anti-physicalist conclusion, but also as an argument for the epiphenomenalism of mental properties.
4. See Donald Davidson (1980) and Jaegwon Kim (1973, [1976] 1993).
5. We should be careful here and specify that I am speaking here of *numerical distinctness*, these further Kimian events not being distinct in any other way from the original. According to an anonymous referee, Kim's distinction between constitutive and characterizing events makes my objection to his account invalid, because in this specific case we can say that there is only one event, 'Selma's hitting the window', which has *hitting the window* as a constitutive (defining) property and *powerfully hitting the window* as the characterizing property. But this is not so. According to Kim ([1976] 1993),

even though events can exemplify multiple properties, it is the constitutive triples that somehow define them. But this does not imply – indeed Kim ([1976] 1993, 45–6) says the contrary – that characterizing properties of an event don't 'create' further events: characterizing properties of an event *E* are themselves constitutive properties of events that spatiotemporally coincide with *E* and which are so described. In our case, 'Selma hitting the window' has *hitting the window* as constitutive and *hitting the window powerfully* as characterizing, while 'Selma hitting the window powerfully' has *hitting the window powerfully* as constitutive. See also Paul (2000, 237–9). Thanks to L.A. Paul for clarifications via correspondence on this issue and to the anonymous referee for calling my attention to the issue of constitutive/characterizing properties.

6. The idea behind the parsed theory is closest to the cases Jonathan Bennett (1988) calls 'nonzonal event fusions'. Nonzonal fusions are cases when two events occupy the same space-time zone, that is, they occur in the same place at the same time. Here we include the famous examples of warming–rotating and stabbing–killing.
7. Here is another advantage over the Kimian approach. In Kim's view cases that we take as the occurrence of parsed events are cases when a multiplicity of events cause another multiplicity of events. This is sometimes counterintuitive because Kim does not and cannot specify a structure in this kind multiple causation. To take my example of ABVD chemotherapy, according to the Kimian view we should say that ⟨the administration of A⟩ and ⟨the administration of B⟩ and ⟨. . .⟩ causes ⟨nausea⟩, ⟨hair loss⟩, ⟨temporary sterility⟩, ⟨nerve damage⟩, ⟨lung damage⟩, ⟨. . .⟩, where each pair of parentheses contain distinct but spatiotemporally coincident events. This structureless way of stating the causal relation at work is counterintuitive since it could be taken as implying, for example, that the administration of A causes nerve damage, which is not true. The parsed theory is supposed to help here by the idea of a causal division of labor internal to events themselves.
8. The reductive physicalist seems to be in the best position since her doctrine is precisely to deny proposition 5. This is why Kim or David Papineau (2002, chap. 1) in fact use the exclusion problem as an *argument* for physicalism.
9. Here again one should notice that C3 and C4 would be contradictory under the standard way to understand contrastivism, but not under the way I formulated and explained it. Recall that standard contrastivism is eliminative with respect to contrast events, while our approach here is just one of emphasizing one aspect of the cause as relevant for another aspect of the effect, while other aspects of them are still instantiated by the structured events simpliciter. Relatedly, one could object: if both *c* qua *M* rather than qua *P* and *c* qua *P* rather than qua *M* cause *e* (however *e* is caused), why isn't there overdetermination? In reply, I should reiterate that according to the parsed theory there are two ways of expressing causal relations: either we say that *c* simpliciter causes *e* simpliciter, or we say that *c* qua *F* rather than qua *G* causes *e* qua *F** rather than qua *G**. So the formulation of the causal relations as it appears in the objection is not an admissible one.
10. Thanks to an anonymous referee and to Barry Loewer for pressing this point.
11. Thanks to an anonymous referee for asking me to be more precise about this dependence of the behavior on its cause as far as mental enrichment is concerned.
12. The solution to the exclusion problem proposed here might remind one of another, classic solution to it, namely the neo-Wittgensteinian explanandum doubling solution (e.g. Georg Henrik Von Wright 1971), according to which on the side of behavior there are two things to be explained: the motion as such and why it is an action. Then, it is argued, the latter is explained by the cause having a mental component, so that there is not explanatory competition between mental and physical properties on the cause side. However, the resemblance is only superficial since my proposed solution involves some theorizing about the ontology of events and causation, while neo-Wittgensteinians used to be concerned only with the theory of explaining human action.
13. Cf. Carolina Sartorio (unpublished paper).

14. The distinction between these two notions of causation has been, of course, put to work sometimes precisely for the purpose of solving the exclusion problem, for instance by Paul Pietroski (2000).

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