

Mental Causation: A Defence

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1. Mental properties as determinables
2. Mental properties as disjunctive properties

ABSTRACT. If we accept causal exclusion, property dualism and physical determinism, mental epiphenomenalism follows. According to Yablo (1992), we can save mental causation by rejecting causal exclusion and considering the mental/physical relation as an instance of the determinable/determinate relation. In this paper I examine Crane's argument (2008) against the causal relevance of determinables, and I argue that we still have good reasons to think that determinables may be causally efficacious. As mental properties can be also considered as exhaustive disjunctions of physical realizers, the causal relevance of mental properties is also questioned by the widely shared opinion that disjunctive properties can not be causally efficacious. I consider Clapp's arguments (2001) in favor of the causal relevance of disjunctive properties, and I conclude that disjunctive properties may survive both Armstrong's famous objections (1978).

Jaegwon Kim (1998) has famously developed the *Supervenience Argument*, aimed to prove that, under the hypothesis of non-reducibility of the mental to the physical, the unintelligibility of mental causation follows. So, according to Kim, what we have is a definite choice: reductionism, or mental epiphenomenalism. The *Supervenience Argument* makes a crucial use of two different premises: physical causal closure, and the refusal of causal overtermination.

Stephen Yablo (1992) has proposed a similar argument for the epiphenomenalism of mental properties:

1. *Exclusion*: if a property X is causally sufficient for an event y , then no property X^* distinct from X is causally relevant to y ;
2. *Physical Determinism*: for every physical event y , some physical property X is causally sufficient for y ;
3. *Dualism*: for every physical property P and every mental property M , P is distinct from M .

If we hold 1, 2 and 3, mental epiphenomenalism follows. Which premise might we reject in order to avoid epiphenomenalism? Obviously not 2. Not 1: “properties are identical only if one necessitates the other; but any physical property specific enough to necessitate a mental property is inevitably *so* specific that the converse necessitation fails” (Yablo 1992, p. 250). Might we find a way to reject 3?

1. Mental properties as determinables

Yablo suggests to look for an explanation of the asymmetric necessitation picture that automatically defuses the exclusion principle: the relation determinate-determinable. If mental properties are determinables of physical properties, there is no causal exclusion, and no epiphenomenalism. Yablo just requires the necessitation relation to be thought as metaphysical, not conceptual; and the supervenience relation between M and P not to be thought as emergence.

But what are Yablo’s arguments for claiming that a determinate can not preempt its own determinable? His first argument is intuition. Take a building collapsed because of a violent earthquake. It is absurd to claim that the cause of its collapsing was the *bare* violence of the earthquake, and that by the exclusion principle its being violent made no causal difference. His second argument is counterfactual reasoning. Suppose that Socrates guzzled the hemlock and died. His guzzling (determinate) does not cause his death; his drinking (determinable) does. In fact, if Socrates had not guzzled the hemlock (if he had drunk it without guzzling it), he would have died; if he had not drunk it, he would not have died. Yablo’s third argument is rampant epiphenomenalism. If only super-determinates are causally efficacious, then – as a large ma-

jority of properties are amenable to further determination – the large majority of properties turn to be epiphenomenal.

Tim Crane (2008) has sustained that Yablo’s proposal can be easily rejected. Crane’s argument for the thesis that only super-determinates are causally efficacious goes like this:

1. Some predicates refer to no property (even if properties are necessarily existent). Crane’s example is the predicate “is red or white”, which is true of a red wine just in virtue of the wine’s being red.

2. When a predication is true, it is the instantiation of a property which makes it true. Or (a weaker thesis), if a predication has a truthmaker, its truthmaker is the instantiation of a property.

3. Causation is relational, and its *relata* are properties.

4. If a causal truth has a truthmaker, this truthmaker must be itself relational.

5. The *relata* of the causal relation will then be the truthmakers for the *relata* of the causal truth.

6. Causation, then, is a relation between truthmakers.

7. If we call *sparse properties* those properties whose instantiations can be truthmakers (2), the *relata* of the causal relation are sparse properties.

8. Only super-determinates are sparse, because only super-determinates are truthmakers. E.g., it is my being exactly 185cm tall that makes it true that “I am tall” or “I am over 180cm”.

9. Only super-determinates are causally efficacious.

Crane says that Yablo’s first argument, focused on intuition, actually is based on counterfactual considerations; therefore it is sufficient to reject his second argument to reject both. According to Crane, the truth of the counterfactual “If Socrates had not drunk it, he would not have died” is not evidence of the causal efficacy of the determinable mentioned on it. When we predicate a determinable property of an object, we just specify that the object *has a sparse property within some range*. The relevant effect is counterfactually dependent on the instantiation of a super-determinate property *within the relevant range*. Therefore our commitment to the Socrates counterfactual is consistent with the truth that only super-determinates are causally efficacious. As for Yablo’s third argument, Crane objects that there is nothing absurd in the idea that most properties are epiphenomenal (multiply realized properties and mental properties included).

Two points in favor of Yablo's position seem to survive Crane's defence of epiphenomenalism. First, as *every* property seem amenable to further determination, may be there are not super-determinates after all (no bottom level). Second, may be that super-determinates (if any) incorporate too many causally irrelevant details. As Yablo (1992, pp. 258-259) points out, adding determination means adding details; not every aspect in a cause contributes to its effect; if some determinables are more causally relevant than their super-determinates, by the exclusion principle super-determinates may not be causally efficacious.

2. Mental properties as disjunctive properties

It is obvious that, if only super-determinates are causally efficacious, then disjunctive properties are not. Determinables can be seen as exhaustive disjunctions of determinates: so, if disjunctive properties are not causally efficacious, then determinables are not. Determinables and disjunctive properties seem to stand or fall together. Moreover, mental properties and disjunctive properties seem to stand or fall together. In fact, if mental properties are multiply realizable by physical properties, and if they supervene on physical properties, they can be seen as exhaustive disjunctions of physical properties.

In the debate about mental reduction, many philosophers thought that multiple realizability would award the victory to nonreductive physicalism. After all, if $M \leftrightarrow P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$, M cannot be reduced to any P_i . Reductionists adopted the disjunctive strategy: M can be reduced to $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$. Fodor (1974) made the move for the antireductionist party: M is not reduced to $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$, since M is a natural kind, while $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$ is not – it is *wildly disjunctive*. Kim objected that being described in a different way can not change things: either both M and $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$ are kinds, or none is. And as $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$ is wildly disjunctive – that is, it is causally heterogeneous, due to each P_i having different causal powers from every other P_i – then M is not a kind.

Andy Clapp (2001) claimed that Kim is right in asking that either both M and $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$ are kinds, or none is. But, according to him, Kim is wrong in arguing that a disjunctive property can not be a kind. What we would have in following Kim is rampant illegitimacy (not just rampant epiphenomenalism): as most if not all properties are multiply realizable, or high-order, then most if not all properties would be illegitimate.

Clapp claims that not every disjunctive predicate designates a disjunctive property. A disjunctive predicate $\pi_1 \vee \pi_2 \vee \pi_3 \vee \dots \vee \pi_n$ is a properly disjunctive predicate if and only if: (1) there is more than one π_i ; (2) each π_i designates a legitimate property; (3) each π_i designates a distinct property. P is a disjunctive property if and only if P can be designated by a properly disjunctive predicate. In order to avoid rampant illegitimacy, at least some disjunctive properties must survive Armstrong's two arguments against disjunctive properties.

Armstrong's first argument is:

Disjunctive properties offend against the principle that a genuine property is identical in its different particulars. Suppose a has a property P , but lacks Q while b has Q but lacks P . It seems laughable to conclude from these premises that a and b are identical in some respect. Yet both have the "property" $P \vee Q$ (Armstrong 1978, p. 20).

Clapp admits that the argument is effective for the predicate "is a raven or a writing desk", and similar. But consider the (perhaps infinite) disjunctive predicate $\chi_1 \vee \chi_2 \vee \chi_3 \vee \dots \vee \chi_n$ where each χ_i designates a distinct color property C_i and every color is designated by some χ_i . It is a properly disjunctive predicate; then, if it designates a property, it designates a disjunctive property. But it *does designate* a property: the determinable *being colored* is the designated disjunctive property. It seems that all the disjuncts share a property; they *overlap on a property*. Clapp's claim is that the same is true of $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$: the disjuncts overlap on the property M .

But there is another obvious difficulty. Here is Armstrong's second argument:

The postulation of disjunctive properties breaks the link which it is natural to make between properties of things and causal powers of things. Suppose that a has P but lacks Q . The predicate ' $P \vee Q$ ' applies to a . Nevertheless, when a acts, it will surely act only in virtue of its being P . Its *being* $P \vee Q$ will add no power to its arm. This suggests that *being* $P \vee Q$ is not a property (Armstrong 1978, p. 20).

Clapp answers that what Armstrong is reasonably requiring is that a predicate π designates a property P if and only if there is a nonempty set of causal powers p such that: (a) if a particular o satisfies π , then o possesses every power in p ; and the converse: (b) if a particular o possesses every power in p , then o satisfies π . There is no such a nonempty set of causal powers p for the predicate "is a raven or a writing desk". But there is one for $\chi_1 \vee \chi_2 \vee \chi_3 \vee \dots \vee \chi_n$. If we

consider the intersection $c_1 \cap c_2 \cap c_3 \cap \dots \cap c_n$ of all the causal powers constituting the properties designated by the disjuncts, we have that it meets condition (a): if o satisfies $\chi_1 \vee \chi_2 \vee \chi_3 \vee \dots \vee \chi_n$, o possesses all the causal powers c_i constituting some C_i , then it possesses all the causal powers in $c_1 \cap c_2 \cap c_3 \cap \dots \cap c_n$. And $c_1 \cap c_2 \cap c_3 \cap \dots \cap c_n$ also meets condition (b). Let us stipulate that P realizes Q if and only if $q \subset p$. A determinate realizes a determinable, then the set of the causal powers of the determinable is a proper subset of the set of the causal powers of the determinate. A multiply realized property is constituted by the intersection of the sets of the causal powers constituting its realizers. $c_1 \cap c_2 \cap c_3 \cap \dots \cap c_n$ constitutes *being colored*. Every object o instantiating $c_1 \cap c_2 \cap c_3 \cap \dots \cap c_n$ instantiates *being colored*, then it has some color, then it satisfies some χ_i , then it satisfies $\chi_1 \vee \chi_2 \vee \chi_3 \vee \dots \vee \chi_n$.

Also $P_1 \vee P_2 \vee P_3 \vee \dots \vee P_n$, that is M , satisfies both (a) and (b). There are causally efficacious, legitimate disjunctive properties, and M is one of them. M is not epiphenomenal: it is constituted by the intersection of the sets of the causal powers of all its physical realizers, $p_1 \cap p_2 \cap p_3 \cap \dots \cap p_n$. There is no need for the causal powers of M to be new, or emerging, or not inherited from its realizers. The causal overdetermination problem disappears: as there is no determinable/determinate tension, there is no realized/realizer tension. M is a legitimate property that can figure in laws (this guarantees, as it seems, the autonomy of social sciences). We may deny all this: but the price of doing so would be rampant illegitimacy, that is quite more severe a perspective than rampant epiphenomenalism.

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