DEFENDING MENTAL CAUSATION BY APPEALING TO GROUNDING

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ABSTRACT

Recently, Clark and Wildman have argued against a thesis about mental causation, due to Kroedel and Schulz, called the *causal grounding* thesis. A programmatic idea driving the causal grounding thesis is that instances of mental causation are always grounded by corresponding instances of purely physical causation. The causal grounding thesis goes beyond this programmatic idea by providing a substantial specification of *how* this occurs. The causal grounding thesis is of considerable philosophical interest because it is instrumental in Kroedel and Schulz's attempt to develop non-reductive physicalism about the mind in such a way that the infamous exclusion problem is avoided. This paper extends Kroedel and Schulz's defense of the causal grounding thesis and replies to Clark and Wildman's concerns.

Keywords: Non-reductive Physicalism; Exclusion Argument; Causal Grounding; Mental Causation

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Section 1 Introduction to Non-reductive physicalism and its exclusion argument.

Non-Reductive physicalism (henceforth: *NRP*) has many variants but, following List and Menzies, I will understand NRP as the conjunction of the following the claims

1. All mental properties are distinct from physical properties.
2. Mental properties supervene on physical properties in the sense that there cannot be a difference with respect to mental properties without a further difference with respect to physical properties.
3. The mental properties are the causes and effects of other properties.[1]

Claim (1) articulates the *non-reductive* aspect of NRP as the idea that mental properties[2] are irreducible to physical properties. As a version of physicalism, NRP also claims that physical properties are more fundamental than the mental properties. Finally, claim (3) ensures that NRP is not a version of epiphenomenalism – it is a view on which mental properties are causally active and so it is supposed to capture our intuitive thought about how our minds can influence, and be influenced by, the world around us.

The Exclusion Argument

According to the exclusion argument, the three theses of NRP are jointly inconsistent. This argument – first developed by Jaegwon Kim – depends on the *exclusion principle*:

> If a property E is causally sufficient for some effect F then no distinct property E* that supervenes on E can be a cause of the effect F.[3]

Since – according to physicalists, at least – the mental supervenes on the physical, the exclusion principle implies that mental states and

their physical grounds cannot play the same causal roles. One of them has to be excluded. The physical property is more fundamental for the NRP, leaving the physical cause as the sole cause and the mental cause is causally excluded. E.g., If the pain is a mental event that supervenes on the physical event C-fibres firing, then the latter is causally sufficient for Bill to wince and the mental state – the pain – is causally redundant.

The exclusion principle expresses skepticism about systematic *overdetermination*. When there are two causes for one effect, there is causal overdetermination. Two balls, each simultaneously thrown at a window hard enough to break it, might overdetermine the window's breaking. When applied to mental causation, the pain and its physical grounds both cause the wincing. Moreover, for *any* mental state *m* that causes some effect *e*, it seems there will be some distinct physical state that is simultaneous with m – namely, *m*'s grounds (or supervenience base) – which is itself a sufficient cause for *e*. Hence NRP seems to imply the existence of widespread causal overdetermination: *whenever* we have a putative mental cause for some effect *e*, there will also be a corresponding physical state (perhaps a state of the brain) which causes *e*. And widespread causal overdetermination seems problematic.

So, the question is: What causal-explanatory role is left for mental states to play, under NRP? It seems that we could deny all instances of mental causation without commitment to any more causally unexplained events, since any causal-explanatory role that a mental event *m* can play is also played by the physical (e.g., brain) events that *m* supervenes on. It is tempting to conclude that we *should* deny the existence of mental causation for reasons of parsimony, since such a denial enables us to avoid ontological commitment to a class of entities (namely, instances of mental causation) without reducing the explanatoriness of the overall theory.

Grounding and Grounding Physicalism

The notion of "ground" arrived into contemporary analytic metaphysics at the beginning of the twenty-first century; however, the notion's roots arguably go back to Aristotle (see Fine, 1995 and

Schaffer, 2009). Sometimes grounding is understood as being a form of "metaphysical explanation."[4] Grounding is most intuitively understood as a relation of noncausal determination. It is a metaphysical relation between a ground and a grounded entity. The ground is considered more fundamental than the grounded entity, and the grounded entity depends, non-causally, on its more fundamental grounds.

The following plausible examples of grounding are taken from Clark and Liggins (2012)

(A) The brittleness of the cup results from the way its constituent atoms are arranged.

(B) The truth-value of a proposition is determined by how the world is.

(C) Actions have their moral properties in virtue of their non-moral properties.

(D) Non-empty sets depend on their existence on their members.

(E) A mental state is grounded in the brain state which realizes it.[5]

Clark & Liggins (2012) pointed out that none of the above examples is plausible if understood causally. For one thing, none of these examples exhibits the temporal asymmetry that is characteristic of causal relations. Furthermore, the explanatory connections cited in (A)-(E) seem to be modally stronger than causal relations – they seem to hold of metaphysical, rather than merely causal, necessity.

Grounding Physicalism, as developed by Kroedel and Schulz, is a version of NRP that is formulated explicitly in terms of grounding, and claims that all instances of mental properties are grounded by instances of physical properties. (Kroedel and Schulz, 2016, P.1-2; Stenwall, 2020, P.3). In particular, grounding physicalism adds the following thesis to NRP:

Grounding - Necessarily, all mental property instances are grounded in physical property instances.

Given that grounding is closely connected to the concept of fundamentality, grounding physicalism seems to imply that mental properties are less fundamental in the instances of grounding. The concept of supervenience is not closely connected to the concept of fundamentality. So, grounding physicalism captures – as NRP arguably does not – the physicalist's intuition that the physical is prior to the mental. (Kroedel and Schulz, 2015)

Section 3 Causal Grounding

The grounding thesis says that mental events are always grounded by physical events. But what about mental-causal *relations*? This is where the causal grounding principle plays a role, since this principle implies that mental causation is not fundamental and depends on its physical grounds:

> **Causal grounding** - Let *m* be a mental event, and let *e* be a physical effect of *m*. Then there is a physical event *p* such that *p* grounds *m* and *m* causes *e* because *p* causes *e*.[6]

In this way, ontological worries about mental causal relations – worries that such relations are gratuitous additions to the causally closed physical system revealed by science – are assuaged by the thought that mental causal relations are always *physically explainable* and can thus "dispel the worry that the overdetermination of the physical effects of mental causes is a surprising coincidence" (Kroedel and Schulz 2015). Thus, causal grounding provides the materials for an intuitively plausible solution to the exclusion argument.

One of the benefits of causal grounding is the solution to the exclusion problem. But Clark and Wildman (2018) argue that the Causal grounding principle is undermotivated and subject to plausible counterexamples.

> These counterexamples rely on the idea that some mental states are grounded by facts that are external to the mental state's bearer – mental states that are not fully grounded by "going on in our heads" but also require external factors to be included in their grounds."

Clark and Wildman argue that causal grounding is incompatible with certain externalist theses about the mind and mental content. They conclude that it remains unclear whether causal grounding can be appealed to in a plausible response to the exclusion argument. I will by offering two arguments for the causal grounding thesis, one being an argument from ontological parsimony, and another concerning narrow content.

Argument from Ontological Innocence

Grounding physicalism implies that all mental events are grounded in purely physical events. Following Schaffer, we can take this to imply that mental events are 'ontologically innocent' – nothing 'over and above' their physical grounds. In Armstrong's phrase, they are 'ontological free lunches':

> Armstrong makes crucial use of the notion of 'the ontological free lunch': 'whatever supervenes … is not something ontologically additional to the subvenient, or necessitating, entity or entities. What supervenes is no addition to being'. [I]n Aristotelian terms, there is a straightforward way to understand Armstrong: whatever is dependent is not fundamental, and thus no addition to the sparse basis. Thus, Armstrong's notion of an ontological free lunch seems best understood against an Aristotelian background.[8]

In another paper, Schaffer develops this idea as follows:

> derivative entities are an 'ontological free lunch', in the sense that they are genuinely new and distinct entities but they cost nothing by measure of economy …. Derivative entities are additional commitments, but they cost nothing. More precisely: derivative entities cost nothing further, beyond the cost incurred for positing their fundamental grounds.[9]

Clark and Wildman point out that, just because mental events are grounded in physical events, it does not automatically follow that mental causation is physically grounded as well:

> [E]ven if mental events are ontologically innocent, this is not enough to secure the ontological innocence of the causal relations into which those mental events enter. Even if mental events are grounded in physical events, it doesn't automatically follow that mental causation is. If mental event m is grounded in physical event p, it doesn't automatically follow that m's causing some event, e, is physically grounded, nor does it follow that m's causing e doesn't require the addition of something ontologically significant. Worries about parsimony apply not only to events, but also to the causal relations into which they enter. Consequently, non-reductive physicalists have to tell us why mental causation is ontologically innocent, why it adds nothing ontologically significant. [10]

We can concede this point. But still, *if* the causal grounding thesis is true, then the ontological innocence of grounded mental events passes directly over to the causal relations that those mental events enter into. This enables us to endorse commonsensical claims about mental causation without ontological commitment to ungrounded mental-causal relations. This is a powerful argument from parsimony in favor of the causal grounding thesis. Even if, as Clark and Wildman argue, the theory is inconsistent with externalist theses about mental content, this argument

from parsimony might lead us to reconsider those externalist theses.

Argument from Narrow Content

Often, mental states have meaning or content. *Broad content* mental states are those whose meaning depends, not just on the states internal to the thinker – specifically, their brain states – but also on aspects of their wider environment. *Narrow-content* mental states are intrinsic and depend only on states internal to the thinker. Brown (2016) summarized:

> Narrow mental content is a kind of mental content that does not depend on an individual's environment. Narrow content contrasts with "broad" or "wide" content, which depends on features of the individual's environment as well as on features of the individual. It is controversial whether there is any such thing as narrow content. Assuming that there is, it is also controversial what sort of content it is, what its relation to ordinary or "broad" content is, and how it is determined by the individual's intrinsic properties.[11]

Clark and Wildman (2018) argue that some mental states, including knowledge and belief states, plausibly depend on external factors. Moreover, they claim that some such broad-content mental states are causally efficacious. This idea is the crux of their critique of the causal grounding thesis. For, if a person *s* has a causally efficacious mental state *m*, and if *m*'s physical grounds are scattered across *s*'s wider environment, then there is no reason to expect that those physical grounds are apt to play *m*'s causal roles – after all, they likely do not share *m*'s spatio-temporal location. Perhaps we could reply by saying that only narrow-content mental states are causally efficacious.

> Philosophers sometimes contrast *wide content* beliefs, whose content depends on features of the believer's external environment, with *narrow content* beliefs, whose contents do not so depend. With this distinction in hand,

> defenders of CG might respond to the present objection by following Fodor (1987) in only taking narrow content beliefs to be causally efficacious. This ensures that the grounds for any given belief will be local to the believer and so will be suitable for slotting into the belief's causal role (and likewise for other kinds of causally efficacious mental states).[12]

But they go on to argue that this is mistaken, appealing to externalist ideas familiar from the work of Putnam (1975) and Burge:

> [C]onsider a person who is familiar with aluminium but who lacks an account of aluminium that would enable him to distinguish it from all other actual or possible metals. He is able to think about aluminium, despite his lack of theoretical knowledge on the matter. For example, his belief that aluminium is lighter than lead concerns aluminium, as opposed to an imaginary superficially identical but chemically different metal twaluminium. This is not because he is able to distinguish the two metals. It is about aluminium because he happens to have encountered aluminium in the world in which he lives; the external fact that he is in a world containing aluminium and not twaluminium partly explains why his beliefs are about aluminium and not twaluminium. In this way, his aluminium beliefs are externalist; moreover, if externalism about aluminium beliefs is warranted, it seems that a very large body of our beliefs about the world will require an externalist treatment as well. Whatever we say about knowledge states, it seems intuitively clear that many of our beliefs are causally efficacious. Jimbo's belief that a certain chunk of metal is aluminium might cause him to say "aluminium" if somebody asks him to identify its chemical kind. But if this belief is partly grounded by an expansive portion of Jimbo's surrounding environment, there is no reason at all to expect that the full grounds of Jimbo's belief will be hooked up to the effects of Jimbo's belief in the manner that CG predicts

> A narrow content belief in the vicinity of Jimbo's belief that his chunk is aluminium would be a belief whose content does not vary between aluminium and twaluminium worlds. A narrow content surrogate for Jimbo's aluminium belief might be a belief that the chunk is a grey metal, with such and such relevant additional properties. But, while this narrow content belief may be causally efficacious in its own right, it is no substitute for Jimbo's belief that the chunk is aluminium. For all we have said, Jimbo may not even have the narrow content belief in addition to the wide-content one (for instance, he might lack the concept of greyness). Moreover, aluminium-concerning beliefs seem to have effects that narrow content surrogates lack. If we want to causally explain why Jimbo picked up a piece of aluminium, it is his aluminium-concerning beliefs and desires that we need to cite. Narrow content beliefs and desires, being neutral between aluminium and twaluminium, are not suitable for bringing about the effect that Jimbo picks up a lump of aluminium: in the terminology of Yablo (1992), they are not *proportional* to this effect, since in a twaluminium-infested twin world, these beliefs and desires would result in Jimbo picking up a lump of twaluminium instead. In this sense, the narrow content beliefs are not causally sufficient for the effect in question.[13]

These views are highly contentious and are disputed, for example, by Bach (1998) and Crane (1991), who writes:

> The Putnam/ Burge arguments do not, I think, force us to opt for broad or narrow mindedness. I will argue not only that their conclusions are fundamentally opposed to crucial assumptions we are obliged to make about causation and the causal role of mental states, but also that the arguments for these conclusions are unsound. There is no Twin Earth problem of the kind Putnam, Burge and many others think there is. So there is no need to respond to it with broad- or

> narrow-mindedness. But here I shall return to Putnam's and Burge's original arguments, and dispute them. My excuse for adding another paper to the already vast literature is that if my arguments are right, they will help not just to solve, but to dissolve the Twin Earth problem.[14]

It is impossible to assess these controversies here. But Clark and Wildman (2018) make a dialectical point: that the causal grounding thesis incurs a substantial theoretical cost, in the form of a commitment to strong internalist claims about mental content or to the claim that only narrow-content mental states are causally efficacious. In reply, it seems to me that, since the debate about externalism is ongoing, it is *unclear* how much of a cost this is. Indeed, taking into account a wider range of costs and benefits might persuade us that taking on these internalist commitments provides the best overall package of views. Let us consider the ledger.

On the one hand, we have grounding physicalism, with the causal-grounding thesis, and whatever unobvious but non-absurd internalist assumptions are needed, allowing us to combine non-reductive physicalism with all the common-sensical mental-causal claims we like. This is an appealing combination of views. The alternative seems to be accepting a view on which the only way to endorse common-sense mental-causal claims is to posit a host of ungrounded mental-causal relations. This, I claim, is a more costly overall package of views.

Section 5 Conclusion

I have argued for the causal grounding principle. Causal grounding is an assumption worth making and taking it as a default view for physicalism because it assumes fewer fundamental entities and facts. Although, as Clark and Wildman note, it comes with substantial theoretical commitments, it is unclear how costly these are – and by accepting the causal grounding thesis, we can get a plausible version of non-reductive physicalism that has materials for an intuitively satisfying reply to the exclusion argument.

ENDNOTES

[1] List, Christian. & Menzies, Peter. Nonreductive Physicalism and the Limits of the Exclusion Principle. *Journal of Philosophy* 106 (9):475-502. 2009.

[2] I will frame the discussion in terms of mental and physical *properties* but it could be generalized straightforwardly, to take account of *states*, *facts*, *events*, or entities of other ontological categories. Indeed, I sometimes use state-talk interchangeably with property-talk in this paper.

[3] Kim, Jaegwon. *Mind in a Physical World: An essay on the mind-body mental causation*. Cambridge, MA: MIT Press. 1998a. Kim, Jaegwon. *Physicalism, or something near enough.* Princeton: Princeton University Press. 2005.

[4] For relevant discussion, See Tuomas E. Tahko, & E. J. Lowe, Ontological Dependence. (*Stanford Encyclopedia of Philosophy*, 2020). Ricki Bliss & Kelly Trogdon, Metaphysical grounding. (*Stanford Encyclopedia of Philosophy*,2008) Fabrice Correia & Benjamin Schnieder, Grounding: an opinionated introduction. In Fabrice Correia & Benjamin Schnieder (eds.), *Metaphysical Grounding: Understanding the Structure of Reality*. Cambridge University Press, 2012) pp. 1.

[5] Clark, Michael and Liggins, David. Recent work on grounding. *Analysis*, 72(4), 812–823. 2012. pp.1

[6] Kroedel, Thomas. and Schulz, Moritz. Grounding mental causation. *Synthese* 193 (6):1909-1923. 2016. pp.6

7 Clark, Michael & Wildman, Nathan. Grounding, mental causation, and overdetermination. *Synthese* 195 (8):3723-3733. 2018. pp.7

8 Schaffer, Jonathan. "On What Grounds What." In *Metametaphysics: New Essays on the Foundations of Ontology*, ed. D. J. Chalmers, D. Manley and R. Wasserman. Oxford: Oxford University Press. 2009. pp.353

[9] Schaffer, Jonathan. What Not to Multiply Without Necessity, *Australasian Journal of Philosophy*, 93:4, 644-664. 2015. pp.647-648

[10] Clark, Michael & Wildman, Nathan. Grounding, mental causation, and overdetermination. *Synthese* 195 (8):3723-3733. 2018. pp.4-5

[11] Brown, Curtis. "Narrow Mental Content", *The Stanford Encyclopedia of Philosophy* Edward N. Zalta (ed.), 2016.

[12] Clark, Michael & Wildman, Nathan. Grounding, mental causation, and overdetermination. *Synthese* 195 (8):3723-3733. 2018. pp.9

[13] Clark, Michael & Wildman, Nathan. Grounding, mental causation, and overdetermination. *Synthese* 195 (8):3723-3733. 2018. pp 9-10

[14] Crane, Tim. "All the Difference in the World," *Philosophical Quarterly*, 41: 1–25. 1991. pp.1-2

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