Grounding Antiphysicalism

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Abstract: In this paper we apply the grounding machinery to articulate versions of *grounding antiphysicalism*. Our main focus is on 'modest' versions of that doctrine where phenomenal facts are fully and ultimately grounded, and at least some of the grounds are physical. We suggest that modest grounding antiphysicalism has some advantages over more radical versions of that doctrine, as well as over its non-grounding theoretic analogues.

Recently, philosophers of mind have begun to notice the detailed excavations of notions of metaphysical dependence such as *grounding* which their metaphysician colleagues have been undertaking over the last two decades. Grounding theorists had often hinted that it might be useful to characterise mind-body physicalism in terms of grounding, but this had mostly been by way of introducing the notion of grounding rather than as a serious attempt to formulate a position on the metaphysics of mind. One reason why philosophers of mind have started to pay attention is the hope that grounding-theoretic formulations of physicalism about the mental might accommodate the motivations for *nonreductive* physicalism more successfully than the modal supervenience relations that characterised late 20th century versions of that doctrine.

Grounding theory construes reality as hierarchically structured.[1] Putting it loosely: facts or propositions (or their constituents) are held to obtain *in virtue of* – to be *grounded in* – distinct facts/propositions that occupy lower levels; and if the structure has a lowest level, the ungrounded items found there – what we'll call the 'ultimate grounds' - are the world's most fundamental components.[2] Enthusiasts maintain that grounding is the most basic and most general notion of metaphysical dependence, and as such, subsumes or dominates familiar dependence relations such as constitution, set-membership, determinate-determinable relations, property realization, etc.[3] They also emphasize that grounding is an *explanatory* notion, though they're quick to qualify that the relevant kind of explanation is distinctively *metaphysical*: explanation which is somehow 'objective' – not necessarily context/interest-sensitive, and which thinkers are not guaranteed to find intellectually satisfying or illuminating. (A popular move here emphasizes the distinction urged by Lewis (1986) between explanations

[1] Canonical works include Fine (2001, 2012), Rosen (2010) and Schaffer (2009). See also Raven (2020).

[2] Barnes (2012) opposes this taxonomy. She explores an unorthodox version of *emergentism* according to which certain properties/entities are grounded (i.e. dependent on others) but fundamental (i.e. 'non-derivative').

[3] A notable exception is Bennett (2017) who regards grounding as just one of several distinct 'building relations'.

and explanatory *acts*. The latter can exhibit pragmatic/epistemic features, but it's a kind of category mistake to suppose that the former can.)[4]

We'll adopt the fairly orthodox framework according to which grounding relations obtain between *facts*, which we'll assume are true propositions. Specifically, a fact is said to be grounded in a distinct fact or collection of facts (its ground or grounds). Sometimes when writing about a fact, F we'll adopt the orthodox convention: '[F]'. A fact, P, is a *partial ground* for a further fact, Q, when P, on its own or with some other facts, is a full ground for Q (see Fine 2012: 50). We'll assume (again with the orthodoxy) that if the grounding facts obtain, it's *necessary* that the grounded facts do too.[5] The notion of necessity at issue here is generally assumed to be *metaphysical*. (In §3 we'll consider varieties of grounding that involve weaker notions (natural/nomological and normative necessity) but generally when we write about necessity and grounding without qualification we intend the metaphysical notions.)

Since we're doing philosophy of mind it will be difficult to avoid talking of *properties, states* and *events* rather than of *facts*, but if we assume that facts contain properties etc. as constituents. then anything we say should be faithfully translatable into fact-talk. The psychological properties thought to be most relevant to discussions of the metaphysics of mind are *phenomenal* ones, and so we'll mainly be concerned with 'phenomenal facts' – i.e. facts whose components include phenomenal properties, states or events. and we'll assume that *physical* facts are facts all of whose constituents are physical.

Our project is to investigate ways in which the apparatus of grounding might be marshalled to formulate *antiphysicalist* positions. We'll develop a range of these, including three that are distinctively 'modest' – i.e. closer to physicalism than more familiar versions of antiphysicalism are. Antiphysicalism is unpopular and difficult to defend, and so we submit that many will regard this modesty as a merit of the new grounding-theoretic antiphysicalist doctrines.

Having outlined grounding physicalism and antiphysicalism in general terms in §1, in §2 we'll develop the first two of the more modest accounts of grounding antiphysicalism that will be our focus. The third is developed in §3. Then in §4 we offer some reasons to prefer these modest antiphysicalist views both to the more radical versions of antiphysicalism furnished by the grounding framework, and to traditional forms of antiphysicalism. §5 concludes.

[4] *Seperatists* such as Audi (2012), Schaffer (2012) and Trogdon (2013; 2018) hold that grounding is explanatory in that it is closely *tracked by* or *backs* metaphysical explanations. Meanwhile *unionists* such as Dasgupta (2017), Rosen (2010), Fine (2012) and Raven (2012) regard the relation between grounding and explanation as tighter, holding that grounding *just is* a kind of explanation. This distinction will not matter much in this paper.

[5] See Leuenberger (2014) and Skiles (2015) for some purported counterexamples to this view.

1. Grounding physicalism and its converse

As noted above, the most common use of grounding in the philosophy of mind is to facilitate a new formulation of non-reductive physicalism which might supersede the proposal that whether or not phenomenal properties are physical, they *supervene* on physical properties.[6] We'll assume here that advocates of this view reject the contention that the physical grounds of consciousness facts are also phenomenal, as might be maintained by a grounding-theoretic version of neutral monism. (Strawson 2015, Goff 2017).[7] We'd also like to distinguish the physicalist view from an eccentric one according to which phenomenal facts are grounded in non-phenomenal physical facts which are themselves grounded in further phenomenal facts. That is, the physicalist thesis we're interested in concerns not just the grounds, but the *ultimate* (ungrounded) grounds of phenomenal facts.

We thus arrive at the following characterisation of *grounding physicalism*:

Grounding physicalism:
All phenomenal facts are fully and ultimately metaphysically grounded in non-phenomenal, physical facts.

This view about the relation between the phenomenal and the physical is entailed by a commitment to a more general physicalism, according to which *all facts* are ultimately fully metaphysically grounded in non-phenomenal, physical facts. An advocate of the more limited view might reject – or at least suspend judgement over – physicalism about gods or numbers, or – of especial relevance here – the facts about grounding itself (the 'grounding facts'). That is, she might hold that phenomenal facts are fully and ultimately grounded in physical facts but that the fact that they are so grounded is not fully and ultimately grounded in physical facts.[8]

The principal reason that philosophers of mind have been attracted to grounding is the expectation that it can provide an articulation of *nonreductive* physicalism more successful than that delivered by *supervenience*, the modal notion that dominated discussion of metaphysical dependence in the latter part of the 20th century (see e.g. Bliss and Trogdon 2016).

[6] Grounding based formulations of physicalism are suggested by (amongst others) Dasgupta; (2014); deRossett (2013); Jenkins (2011); Kroedel and Schulz (2016) Leuenberger (2014) and Schaffer (2009). They are further developed in e.g. Ney (2016), O'Conaill (2018), and Rabin (2020) as well as in a number of papers in this volume. They have not been met with universal approval. Wilson (2016) and Melynk (2016) argue against appealing to grounding in an articulation of physicalism about consciousness.

[7] This is primarily for ease of expression. There are interesting questions about how to fit such views into the kind of framework we employ here, but we do not have the space to address them.

[8] For relevant discussion, see Dasgupta (2014) and Blaesi (MS).

Supervenience is a reflexive and non-symmetric relation, whereas the dependence relation which physicalists (including nonreductive physicalists) expect to find between physical and psychological properties is generally agreed to be irreflexive and asymmetric. More importantly, supervenience is not *generative*, and it's not *explanatory:* supervenience theses codify patters of property distribution across possible worlds, but they're silent on *why* the properties are distributed as they are.[9] In contrast, an accurate description of the grounds of a psychological fact would explain why it obtains by identifying the fact(s) on which it depends. Meanwhile, while supervenience physicalism obviously does not entail grounding physicalism, grounding physicalism is widely assumed to entail supervenience physicalism, because (according to most grounding theorists) grounds necessitate the facts they ground (where the relevant notion of necessity is *metaphysical*). In fact, even those who reject necessitation for grounding can accept that grounding physicalism entails supervenience physicalism because whilst supervenience is a global thesis, necessitation for grounding is a local thesis (see Leuenberger 2014; Rabin 2020a; 2020b: 139).[10]

Antiphysicalism is simply the negation of physicalism, so the most general variety of grounding antiphysicalism about phenomenal consciousness will be as follows:

> *Grounding antiphysicalism:*
> Some phenomenal facts are not fully and ultimately metaphysically grounded in non-phenomenal, physical facts.

There are various different ways in which this might come out true. As we hope to show in this paper, this variegation is part of what makes an investigation into grounding antiphysicalism interesting and worthwhile. As we'll see, some of the views we consider might even strike one as more physicalist than antiphysicalist. However, we think the formulation of grounding physicalism we offered above is more faithful to familiar physicalist views than relevant alternatives, so for present purposes we'll count any view that contradicts it as antiphysicalist.

The most *radical* versions of antiphysicalism (i.e. those that are furthest from physicalism) take (some) phenomenal facts either to be fully and ultimately grounded in non-physical facts, or not to be fully and ultimately grounded at all. If they're not fully and ultimately grounded at all this could be because they're entirely ungrounded (i.e. they're fundamental), or because (although grounded) they either lack full grounds or lack ultimate grounds (or both). Let's consider these options in order. The first two, the view that (some) phenomenal facts are

[9] Kim (1984, 1992), Horgan (1993), and Wilson (2005).

[10] Thanks to an anonymous referee for pointing this out.

ultimately and fully grounded in non-physical facts and the view that they are entirely ungrounded, look like versions of traditional dualist doctrines. (These include Cartesian substance dualism of course, but also versions of property dualism.) The latter of those two views is, we assume, tantamount to the contention that phenomenal facts are fundamental, while the former contends that non-physical facts can be explained in non-physical terms.

It's difficult to evaluate this last option in the absence of a clearer conception of what it would be for non-physical facts to play the relevant kinds of explanatory, grounding roles. Some putative cases seem relatively unproblematic, e.g. where a non-physical phenomenal fact involving a determinable phenomenal property is said to be grounded in another non-physical fact featuring a determinate of that phenomenal property.[11] But for a more general conception it's hard to resist falling into crude analogues of familiar varieties of physical dependence which seem ill-suited. One has a clear enough conception of how matter can be melded into new forms – how we can create e.g. buildings and furniture (and a little more abstractly, e.g. software) out of baser materials – but the analogue idea here would be that phenomenal states of affairs are somehow produced by transformations of that sort, just applied to non-physical 'stuff' instead of to matter. Perhaps ectoplasm, spirit substance and ether (for example) can combine in various ways to produce phenomenal experience (and so e.g. facts about phenomenal experiences are grounded in facts about the existence and arrangement of these substances), but to us at least this kind of view is hard to find persuasive. We might look instead to more abstract examples of grounding – e.g. the existences of sets in those of their members, and arithmetical facts in set-theoretic ones – to provide us with an understanding of non-physical grounds. These examples do look suitably non-physical, but it's unclear how they might help as a guide to the phenomenal case. So perhaps the best grounding-theoretic analogue of traditional dualism is the view that phenomenal facts are ungrounded and so fundamental.

Next, consider the view that (some) phenomenal facts are not fully and ultimately grounded because, although grounded, they lack full and/or ultimate grounds. According to the first option, the grounding 'chains' that undergird (some) phenomenal facts terminate with sets of (physical) facts that constitute only partial and not full grounds.[12] According to the second, the facts at each level of the grounding hierarchy are fully grounded by facts at the next level down, but the structure (or at least part of it) *descends infinitely:* there's no bottom level. Combinations of these views are also possible; a partial ground might itself descend infinitely. Note that these views don't require all, or even any, of the grounds of phenomenal facts to be non-physical. And so they are views that, as anticipated above, some might prefer to categorise as versions of

[11] Thanks to an anonymous referee for suggesting an example like this.

[12] See the papers in this volume by Leuenberger and Trogdon. See also Byrne (MS). For criticism of the appeal to merely partial grounds in the context of characterising emergentism, see Wilson (2016).

physicalism. However, the views contradict grounding physicalism as formulated above, so for our purposes they count as antiphysicalist.

Our primary interest in this paper is in the more *modest* antiphysicalist doctrines, according to which phenomenal facts are fully and ultimately grounded, and at least partially so in physical facts.

> *Modest grounding antiphysicalism*:
> Some phenomenal facts are not ultimately and fully metaphysically grounded in non-phenomenal, physical facts, but all phenomenal facts are ultimately and fully grounded and are at least partially grounded in non-phenomenal, physical facts.

This formulation suggests a picture whereupon some of the partial grounds of phenomenal facts are physical, and some others are non-physical, and so it is natural to wonder about these non-physical partial grounds. What kind of non-physical fact(s) might supplement a collection of physical ones collectively to provide a full metaphysical explanation of a phenomenal fact? Prima facie, the suggestion that phenomenal facts have non-physical partial grounds seems mysterious in the same way as the as the suggestion that they have non-physical full grounds. In §3 we'll consider an a version of modest antiphysicalism that avoids commitment to non-physical grounds altogether by shifting from *metaphysical* to *natural* grounding, but first, in the following section we consider a variety of antiphysicalism that embraces a notion of non-physical ground. This view takes inspiration from the emergentist, Broad (1925), and also from a suggestion made about consciousness but not grounding by Chalmers (1996) and one about grounding but not consciousness by Rosen (2017a). It is the proposal that the non-physical grounds of phenomenal facts include *bridge laws* relating phenomenal properties to physical ones.

2. Bridge Law Antiphysicalism

A component of a popular way to articulate emergentism and of a dualist position considered sympathetically by Chalmers (1996) is the suggestion that although physicalism is false, there are *psychophysical laws* such as (PL) below, whose modal force is natural/nomic but not metaphysical.[13]

(PL) $\Box(\forall x)\ (Px \supset Qx)$

[13] Broad (1925) himself wrote of 'trans-ordinal laws'. For this interpretation of emergentism, see e.g. McLaughlin (1997) and Kim (1999), and for sympathetic defence of a similar position see Chalmers (1996). Critics of this interpretation of emergentism include O'Connor & Wong (2005), who defend a causal conception of emergence, and Wilson (2016, §5).

This construal allows advocates to maintain that phenomenal properties depend to some degree on physical ones, whilst insisting that they do not supervene on them. (Because the psychophysical laws hold only with natural necessity, the position accommodates the metaphysical possibility of zombies, inverted spectra etc.)

A grounding-theoretic construal of this doctrine is as follows:

Bridge law antiphysicalism
Some phenomenal facts are fully and ultimately metaphysically grounded, partially in physical facts and partially in psychophysical bridge laws.

Advocates of bridge law antiphysicalism can hold that psychophysical bridge laws are fundamental and so not themselves grounded, or they can hold that they are grounded in further non-physical facts. (Advocates cannot presume that they're grounded in physical facts as this would make the view at issue a version of grounding physicalism as we've characterised it.)

One difference between bridge law antiphysicalism and traditional antiphysicalism (including emergentism) is that while traditional antiphysicalists generally deny not only that facts about consciousness can be physically explained, but that they can be explained *tout court* (they are *unexplainable*), bridge law antiphysicalism says that they can be explained (in metaphysical terms). But a qualification is immediately in order: if it is further maintained that the psychophysical bridge laws are fundamental, the explanatory ambition of bridge law antiphysicalism does not exceed that of traditional antiphysicalism by much. Advocates will insist that while it may be possible to explain particular phenomenal facts, it's not possible to explain why phenomenal properties relate to physical ones in the way they do *in general*, as codified by the relevant laws.[14]

We suggest that the more significant distinguishing feature of bridge law antiphysicalism is the role it attributes to partial physical grounds. An analogue of the suggestion that phenomenal facts are partially though not fully grounded in physical ones does not seem to be available to advocates of traditional supervenience physicalism (including the nonreductive varieties) or antiphysicalism. As noted above, the view is structurally analogous to the an antiphysicalist position considered sympathetically by Chalmers according to which phenomenal properties don't supervene on physical ones but there are naturally necessary psychophysical laws. However, as this is a thesis about supervenience rather than grounding, it fails – like the

[14] As noted above, another inspiration for this view is Rosen (2017a, 2017b), who sympathetically considers a form of ethical non-naturalism according to which normative facts are grounded partially in non-normative facts and partially in relevant bridge laws.

supervenience views we mentioned in §1 – to capture the suggestion that the physical facts contribute to the *determination* of the phenomenal ones. Yet as we'll explore in §4, this is a feature of bridge law antiphysicalism that may very well be attractive.

Note that a friend of bridge law antiphysicalism can recognise the availability of a version of the position that's even closer to physicalism than the version just discussed (and so even more modest). As we noted above, emergentism is often articulated in terms of the suggestion that relevant psychophysical laws hold with natural, but not metaphysical necessity – and in the traditional framework that's as close as an antiphysicalist doctrine can get to physicalism, since to allow that the laws hold with *metaphysical* necessity would be to embrace psychophysical supervenience, and so physicalism as traditionally construed. However the grounding framework frees the antiphysicalist of this constraint. The bridge law antiphysicalist is at liberty to suppose that relevant psychophysical laws are *metaphysically* necessary, and indeed, that phenomenal properties supervene on physical ones. This will not appeal to antiphysicalists who are convinced by arguments such as Chalmers' conceivability argument of course, but it's a form of antiphysicalism nonetheless.

The advocate of this *extra-modest* version of bridge law antiphysicalism will insist that the difference between grounding physicalism and her position is that she holds that to (metaphysically) explain the phenomenal facts we must make reference to psychophysical bridge laws in addition to physical grounds, while the grounding physicalist thinks that the physical grounds provide full explanations by themselves. Of course, whether or not they agree that (PL) and its ilk are laws, advocates of grounding physicalism agree that they're *true*, so the difference between these views is subtle.[15] Presumably the grounding physicalists hold these generalisations are ultimately grounded in physical facts, so another way to understand the difference between grounding physicalism and the extra-modest bridge law view is in terms of the question whether the likes of (PL) are ultimately grounded in physical facts.

Of course, there are reasons to question whether laws such as (PL) are the sorts of things that can *be* grounds – of phenomenal facts, or indeed of facts in general. Friends of grounding generally accept that laws mediate connections between grounds and what they ground, but many deny that laws are ever themselves grounds. Before looking into this a little more we make two dialectical remarks. First, the contention that the non-physical grounds of phenomenal facts are psychophysical laws is not an essential component of modest antiphysicalism as formulated above – for all that's been said, there may be other plausible candidates for role of a non-physical

[15] In the course of his discussion of meta-ethical views suggested by the grounding framework, Rosen (2017a) likens a dispute like this to one between a theorist who holds that the existence of a set is fully grounded in that of its members, and one who holds that the grounds must also include a principle to the effect that, necessarily, whenever some objects exist, so too does the set containing them. 'If the grounding idiom is clear, this is a meaningful dispute, but if the answer isn't obvious, it's quite unclear what sort of argument might resolve it.' (Rosen 2017a: 165).

partial ground with which to supplement the physical partial grounds of phenomenal facts – our suggestion that psychophysical laws can be grounds is an attempt to elucidate a version of modest antiphysicalism rather than an essential part of the doctrine. Second dialectical remark: in the following section we consider a different version of modest antiphysicalism which does not invoke laws (or anything else) to play a supplementary grounding role – so even if you're convinced that laws cannot be grounds and that nothing else can fill the gap this leaves in bridge law antiphysicalism, we may yet have a version of modest antiphysicalism to offer you.

Bader (2017: 117) says that to think of laws as grounds involves a confusion of levels, analogous to thinking that the breaking of the window is caused by a relevant causal law as well as by the throwing of a stone. According to Bader, causal laws govern causal relations between causes and effects, but they aren't themselves causes. Similarly, grounding laws mediate grounding relations, but aren't themselves grounds.

Rosen (2017b: 284) responds that the proper analogue is not with causation, but with causal explanation. It might well be appropriate in *explaining why* the window broke to cite both the throwing of the rock and the relevant causal law. This response turns on the assumption that grounding is itself a kind of metaphysical explanation, as opposed to a relation (analogous to causation) that *backs* metaphysical explanation (just as causal relations back causal explanations). Rosen's view here is controversial. Even when working explicitly with a notion of metaphysical explanation, one might wish to deny that metaphysical laws are *part* of the explanation, as opposed to background conditions. (See e.g. Wilsch 2016, who defends a deductive-nomological account of metaphysical explanations but nevertheless denies that metaphysical laws are part of the explanans.)

On the other hand, for some kinds of facts for which we seek grounds, it is intuitively more plausible to suppose that laws can be grounds. Rosen (2017a, 2017b) himself sympathetically explores the view that normative facts are partially grounded by bridge laws relating normative properties to non-normative ones. And Dasgupta (2014) and Rosen (2017b: 284-5) propose that laws feature amongst the grounds of facts *about grounding*. For example, while it might seem like a category mistake to claim that the ground for [P ∨ Q] is not just [P] but also a general law connecting the relevant kinds of facts, it is very plausible that the full ground of *the fact that* [P] grounds [P ∨ Q], will include a general law. After all, what we are trying to explain is what makes it the case that, in general, facts like [P ∨ Q] are grounded in facts like [P], and that's precisely what a general law explains.

Of course, phenomenal facts, are not normative and they're not grounding facts, but advocates of bridge law antiphysicalism are at liberty to suggest that the grounding of the phenomenal facts in the physical facts and the psychophysical laws is another special case where we need to recognise the role of laws as grounds.

Another argument of Dasgupta's (2014) for the thesis that the grounds of grounding facts include laws might help to shed a little more light on what an advocate of bridge law antiphysicalism should say about her case. The background to this is the commonly held view (see e.g. Bennett 2011; 2017; DeRossett 2013) that when e.g. [P] grounds [P ∨ Q], [P] also grounds the fact that P grounds [P ∨ Q]. Against this, Dasgupta points out that [P] does not only ground [P ∨ Q]: it also grounds [~~P]. This suggests that a full explanation of what makes it the case that [P] grounds [P ∨ Q] should say something about disjunction, while a full explanation of what makes it the case that [P] grounds [~~P] should say something about negation. It's because of how disjunction works that the first grounding fact obtains, and because of how negation works that the second does (Dasgupta 2014: 573). And a way to interpret Rosen's claim that in paradigmatic grounding claims it 'lies in the nature' of the grounded fact to be (determinately) so grounded is as a claim about grounding grounding: it lies in the nature of, e.g. [P ∨ Q] that [P] makes it the case that [P ∨ Q], and it lies in the nature of [~~P] that [P] makes it the case that [~~P].

This can help show how one might justify the claim that the grounds for a fact include a law. One should suggest (as Dasgupta and Rosen do in the above examples) that it lies in the nature of the grounded fact that it must be grounded in that way. And so in the phenomenal case: an advocate of bridge law antiphysicalism should insist that it lies in the nature of the phenomenal facts to be grounded in those physical facts *and* the relevant psychophysical laws.

3. Natural grounding

In this section we consider an alternative version of modest antiphysicalism which requires neither that bridge laws are grounds nor that some other non-physical fact supplements the physical facts to yield full grounds for phenomenal facts. So to anticipate: this is another doctrine which some readers may regard as closer to physicalism than to antiphysicalism. But (as with the views that phenomenal facts lack full ultimate grounds altogether) this view contradicts grounding physicalism as formulated in §1 (and it contradicts traditional supervenience physicalism) so we'll count it as an antiphysicalist doctrine. The view invokes the notion that, following Fine (2012) we'll call '*natural grounding*'.

As we saw in the preamble to this paper, it is generally agreed that if a grounding fact (or set of facts) obtains, then it's *necessary* that the fact it grounds also obtains, where the notion of necessity at work here is *metaphysical*. In one of his seminal papers, Fine (2012: 39) suggests that if we consider weaker notions of necessity here, alternative notions of dependence that are looser than *metaphysical grounding* come into view. Thus e.g. to say that a fact is *naturally grounded* in another fact (or set of them) is to say that the former obtains in virtue of the latter, but it is necessitated by it only *naturally/nomologically*; and to say that a fact is *normatively*

grounded in another fact (or set of them) is to say that the former obtains in virtue of the latter, but is necessitated by it only *normatively*. Fine's idea is that corresponding to each modality, there is a distinct *in virtue of* relation such that there is no stricter or fuller account of the explanatory connection between things related by it, relative to that modality. It's not just that in metaphysics, physics and ethics different kinds of things explain and are to be explained; but also that the relevant explanatory relationship differs (Fine 2012: 39). This amounts to a modest pluralism about grounding.

These reflections suggest another version of antiphysicalism about phenomenal facts:

Natural grounding antiphysicalism
Some phenomenal facts are fully and ultimately naturally grounded in physical facts, but are not metaphysically grounded in physical facts.

Although there is a sense in which this view resembles a physicalist one, it contradicts both traditional supervenience physicalism and grounding physicalism as we've characterised it, so we'll count it as an antiphysicalist view. But like bridge law antiphysicalism and unlike radical antiphysicalism, the view allows that physical facts play a role in the determination of phenomenal ones, so we'll count it as another version of *modest* antiphysicalism.

The difference between natural grounding antiphysicalism and bridge law antiphysicalism is subtle (at least as long as we're thinking of the version of the latter on which the relevant psychophysical laws are naturally and not metaphysically necessary). Each theory says that physical facts play a role in the determination of phenomenal facts, and each agrees that the former necessitate the latter in the natural/nomological sense but not the metaphysical. How should a modest antiphysicalist decide which view to adopt? One reason one might prefer natural grounding antiphysicalism is if one were convinced by the arguments we considered in the previous section against the assumption that laws can be grounds. But might there be another reason?

Here's an analogy we suggest might be helpful. Many nonreductive physicalists in the philosophy of mind agree that psychological properties are higher-order and *multiply-realisable:* but some seem to be motivated by a *top-down* conception and others by one which is more *bottom-up*. The former approach is, we think, more orthodox. Advocates anticipate functional characterisations of psychological properties which are high-level and so require realisation at lower levels. But on this view, the high level specification fixes what it is the lower-level realisations have to do. And one can envisage laws codifying these connections: specifying that lower-level configurations that play the role *must* count as realizers of the psychological properties in question. In contrast, advocates of the bottom-up approach agree that particular

configurations of neural properties give rise to psychological ones, but doubt whether they do so in a way sufficiently patterned or regular to allow the specification of strict laws. We're thinking of Davidson's (1970) *anomalous monism* in particular, which is sometimes characterised as a conjunction of the view that each token mental event is a physical event, with the doctrine that there are no (type-type) psychophysical laws.

A grounding theorist might prefer natural grounding antiphysicalism to bridge law antiphysicalism if – sympathetic to a conception analogous to the *bottom-up* nonreductive physicalism just considered – she held that individual physical facts give rise to individual phenomenal facts because of how they are as individuals rather than how they are qua *types*. She would concede that similar physical facts give rise to similar phenomenal ones so that generalisations such as (PL) are *true* and that the physical facts naturally necessitate the phenomenal facts, but she could insist that those generalisations play no role in the grounding of the phenomenal facts – indeed she could insist that the generalisations are grounded in their instances rather than the other way around.

Fine's modestly pluralist suggestion which we have taken up has not been widely adopted in the literature. Most discussions of grounding are of metaphysical grounding, though perhaps the main reason for this is that metaphysical grounding is the appropriate notion for most of the relevant explanatory work in philosophy. There has, however, been some discussion in meta-ethics of the notion of *normative* grounding, though even there it has not met with widespread approval. (A law connecting a normative property with a non-normative one is said to hold with normative necessity if the connection obtains in all worlds in which the same norms apply. Thus e.g. the doctrine that the wrongness of an action (type) is normatively grounded in the fact that it is performed with the sole intention of causing harm, implies that in all worlds with our moral rules, actions performed with that intention are wrong, but it allows that there are (metaphysically possible) worlds in which the rules are different and where some such actions are not wrong.)

For example, Berker (2018) argues against modest grounding pluralism on the basis that logical principles which relate several grounding claims of a particular type (e.g. the transitivity of metaphysical grounding) also hold for mixed grounding claims (i.e. transitivity still holds when we chain metaphysical grounding claims and normative grounding claims). The best explanation for this, according to Berker, is that there is in fact a single generic grounding relation underlying these specific grounding claims.

Even if there is a generic relation that underlies specific grounding claims, it is at least useful sometimes to distinguish different varieties of grounding. For example, it seems plausible that the fact that an action is performed with the sole intention of causing harm is normatively fundamental, but nobody would think it *metaphysically* or *naturally* fundamental. (More likely, it

is both metaphysically and naturally grounded in e.g. facts about the brain states of the agent). Distinguishing these different varieties of grounding allows us to distinguish different positions (e.g. in metaethics) which would otherwise not be distinguishable.

Bader (2017) argues that nonneductive moral realism requires that there be a distinctive species of normative grounding. According to the supervenience argument against nonreductive moral realism, for every normative property there is a non-normative property with which it is necessarily co-extensive, and so there is no reason to believe in irreducibly normative properties. A stronger version of this argument claims that for every normative property there is a corresponding non-normative property *with the same grounds*, and which is therefore hyperintensionally equivalent. Bader's proposal is to rescue nonreductive realism by distinguishing the normative grounding involved in grounding the normative property from the metaphysical grounding involved in grounding its disjunctive descriptive counterpart. The normative properties are thus normatively grounded in (but not reducible to) non-normative properties.

The point here is not that an analogous argument can be made concerning the relationship between the mental and the physical (though we suspect that it could). Rather, the point is that there are good reasons to recognise different grounding relations corresponding to different modalities. This is enough to warrant an exploration of the positions generated by distinguishing natural from metaphysical grounding in our assessment of modest forms of grounding antiphysicalism.

4. Mental Causation

Above we described several antiphysicalist positions in the philosophy of mind whose formulation is made possible by the grounding apparatus and which (as far as we know) have not been considered in the literature before. Our project has been mostly exploratory and taxonomic – we've not defended the views we've excavated – but to close, we offer some provisional reasons to prefer two varieties of modest antiphysicalism to other grounding-theoretic positions on the metaphysics of consciousness – and to traditional forms of both physicalism and antiphysicalism. These positions are bridge law antiphysicalism and natural grounding antiphysicalism.

One very general overarching reason for this is straightforward. First, grounding physicalism entails supervenience physicalism and so is ruled out by familiar antiphysicalist arguments such as Chalmers's conceivability (zombie) argument. (The 'extra modest' version of bridge law antiphysicalism according to which psychophysical bridge laws hold with metaphysical necessity is also ruled out by these arguments.) Second, by allowing that physical facts play a role in the grounding of phenomenal facts, bridge law antiphysicalism and natural grounding

antiphysicalism occupy positions closer to physicalism than more radical antiphysicalist views do: so they retain many of the advantages of physicalism without running afoul of the antiphysicalist arguments. By itself this might not be a persuasive *argument* in favour of the modest antiphysicalist views but it's a feature of the views that should appeal to anyone already sympathetic to any of the myriad reasons philosophers have offered in favour of physicalism. To many, physicalism appeals because it seems to fit best with science, with empiricism, with their preference for metaphysical parsimony or their allegiance to other ideological principles or to common sense. Modest antiphysicalism is less disruptive of this orthodoxy than more radical versions of grounding antiphysicalism, and many will and should welcome this feature.

For a more specific example of a respect in which the modest grounding antiphysicalist positions can appropriate a strength of physicalism (without succumbing to the antiphysicalist arguments against it) we offer the following account of how modest antiphysicalism accommodates mental causation.

Traditional antiphysicalists' troubles with mental causation are notorious. Psychological properties, states or events – including phenomenal ones – appear to be causes and effects. Every philosophy student learns of Princess Elizabeth's (1643) letter to Descartes, and is encouraged to wonder how immaterial souls could possibly exert causal influence on material bodies, and vice-versa. The source of this 'problem of interaction', we are told, is that substance dualism depicts minds and bodies as substances with 'radically diverse' natures, and our conception of causation is one of a relation that can only hold between relata with similar natures. But the problem seems as pressing for property dualism as for substance dualism. We can think of the causal relata at issue as events (or property instantiations) rather than substances per se; but the causal profiles of (psychological) events are generally agreed to depend on their (psychological) properties as much as the substances that bear those properties.

In the face of this problem, some antiphysicalists (e.g. Jackson (1982)) retreat to *epiphenomenalism* about consciousness. But most traditional dualists and the emergentists we discussed briefly in §1 bite the bullet and insist that phenomenal properties or states are causally autonomous – they repudiate the widely accepted principle of the *causal closure of the physical*. Modest antiphysicalists have a much more attractive solution to this problem.

This solution resembles a way in which grounding physicalists have recently proposed to evade the *problem of causal overdetermination* that bedevils nonreductive physicalism. Traditional nonreductive physicalists deny that phenomenal and other psychological facts can be explained in physical terms. However, like grounding physicalists, they maintain that psychological matters are in some sense fully determined by (particular) physical ones: the best-

known suggestion in this area is that psychological properties are functional ones which are *realized* by physical (probably neurological) properties, but there are other versions.

The source of the overdetermination problem is that this kind of picture seems to suggest that whenever an occurrence is caused by an event involving the instantiation of a psychological property, an alternative causal explanation is available which identifies the cause as an event involving the 'lower level' physical property – e.g. the one that realizes the psychological one. It looks as though we have two candidates for a single causal role, and that the physical one threatens to 'exclude' the mental one.[16] The kind of response to which we want to draw attention is the 'compatibilist' one according to which the overdetermination here is benign or perhaps even unreal, because the two candidates are so intimately related, metaphysically speaking. Causal overdetermination engenders 'exclusion' when the candidate causes are suitably independent, but where one of them is metaphysically determined by the other, the apparent proliferation of candidate causes is unproblematic.[17]

Grounding is supposed to be the relation of metaphysical determination and intimacy *par excellence*, and so a version of this strategy should be especially tempting to grounding physicalists. This is developed in detail to by Kroedel and Schulz (2016), who suggest that the key move for grounding physicalists is adopt a principle ('Causal Grounding') which says, roughly, that the causal profiles of psychological properties are grounded in those of their grounds. Kroedel and Schulz write of grounds of *events* rather than of facts, but we can transpose their account into one involving facts if we assume for arguments' sake that facts can be causes and effects.[18]

Causal Grounding

If a psychological fact, P, causes effect E, there's a physical fact, G, that (fully) grounds [P], and [P causes E] is (fully) grounded in [G causes E].

Whenever a mental event or fact involving it causes an effect, there's a distinct physical event/fact (its ground) which also causes it. This is overdetermination, but Kroedel and Schulz argue that if the relation between the two events is as intimate as grounding, the overdetermination is benign. We agree. Suppose that the momentum of a rock you throw causes a window to break. It's also plausible that the rock's parts having their momentums causes the window to break. This is a case of causal overdetermination, but nobody would complain that

[16] So the problem, which we've simplified, for brevity is also known as the 'exclusion problem'. For more comprehensive expositions see Kim (1989) and (1998).

[17] For examples of this strategy in the traditional nonreductive physicalist mode, see Yablo (1992), Wilson (1999, 2015), Shoemaker (2001) and Bennett (2003). For dissent, see e.g. Kim (1998: 53).

[18] This fits reasonably well with a conception of events as *property-instantiations at times*.

the causal efficacy of the rock's parts exclude that of the rock, and the reason is that the latter depends metaphysically on (in fact, is grounded in) the former.

Before we get back to antiphysicalism, note that Kroedel and Schulz's principle seems implausibly strong even for advocates of grounding physicalism, for there may be cases in which the full grounds of a fact incorporated in a psychological event/fact include constituents which don't number amongst grounds of the facts involving the event's causal potential. In this vein, Clark and Wildman (2017) consider events involving psychological states with externalist ('wide') contents, and knowledge states. In both cases it seems right to say that a thinker's instantiation of the psychological property is grounded in facts concerning matters outside his head – in some cases, far enough outside to render it implausible that anything found there might enter the grounds of the psychological states' causal potentials. Clark and Wildman offer some dramatic examples to make this point, but we think the exoticism of their examples compromises the plausibility of their basic contention, and so we offer the following simpler example. It's plausible that some of your beliefs about the moon and all of your knowledge states about it are partially grounded in facts of which the moon itself is a constituent. But it's much less plausible that the moon is a constituent of the facts that ground various facts about how those states cause you to behave.[19]

Even so something seems right in the idea that the causal potential of an event/fact is determined by *some* of its grounds, so we propose that the grounding physicalist should retreat to a weakened version of Kroedel and Schulz's principle, which invokes the notion of *partial* ground:

Causal Grounding (partial)

If a psychological fact, P, causes effect E, there's a physical fact, G, that partially grounds [P], and [P causes E] is (fully) grounded in [G causes E]

Armed with this, the grounding physicalist can accommodate e.g. the intuition that some of the grounds of your beliefs and knowledge states about the moon (e.g. those that incorporate the

[19] As we mentioned, the particular examples discussed by Clark and Wildman are dramatic, but also, we think, unpersuasive. Their example of a knowledge state with an external ground is Bill's knowledge that there's a star outside of his causal light cone, the idea being that the grounds of this incorporate the star itself, which is definitely too remote to feature in grounds of the state's causal potential. But there are ways to accommodate the factivity of Bill's knowledge of which do not require us to suppose that this knowledge state is grounded in a fact about a particular remote star. (Indeed, any advocate of a causal conception of knowledge would insist on this). Clark and Wildman offer knowledge about *abstract objects* as further counterexamples to *Causal Grounding* (as such objects are not causally efficacious). But advocates of general physicalism (as opposed to physicalism merely about consciousness) will question their claim that thinkers can enjoy knowledge states grounded in abstract objects, since they'll deny that there are any such objects, at the fundamental level at least.

moon itself) do not feature amongst the grounds of the causal profiles of those mental states, while insisting that others do so feature, and indeed, provide full ground of those causal profiles. The metaphysical relation between this sub-set of the profiles' grounds and the facts about beliefs or knowledge states which they partially ground is as intimate as it is on Kroedel and Schulz's proposal, so the overdetermination remains benign.

Next notice that much as this weaker causal grounding principle solves the problem of over-determination faced by grounding physicalists like Kroedel and Schulz, it also provides advocates of modest grounding antiphysicalism with what they need to evade the problem of causal interaction.[20] Modest antiphysicalists who endorse Causal Grounding (partial) can accommodate mental-to-physical causation easily, because on this picture, facts about mental causation are always (fully) grounded in causal facts of the familiar physical-to-physical kind. Mental causation is real, but it does not disrupt the causal closure of the physical. Furthermore, while Causal Grounding (partial) only covers cases in which mental events are causes, a similar principle can be formulated to deal with mental events as effects:

> *Effect Grounding (partial):*
> If a psychological fact, P, is caused by an event, C, there's a physical fact, G, that partially grounds [P], and [C causes P] is (fully) grounded in [C causes G]

For all we've said, E in *Causal Grounding (partial)* or C in *Effect Grounding (partial)* might be further mental events, so this approach should be able to tackle cases of 'mental-to-mental' causation as well as those of 'mental-to-physical' and 'physical-to-mental'.

We submit that, supplemented with these independently-motivated principles about the grounds of causal relations, modest grounding antiphysicalists can deal with the traditional 'problem of interaction' much as grounding physicalism can deal with the problem of overdetermination. This strategy is not available to advocates of more radical forms of grounding antiphysicalism, or to traditional forms of antiphysicalism, so we think that this is a reason to prefer the modest versions of grounding antiphysicalism to any of those views.

5. Concluding remarks

In this paper we have examined ways in which the apparatus of grounding can be marshalled to identify and defend new varieties of antiphysicalism about consciousness, some of which have more in common with physicalist views than traditional antiphysicalist doctrines do. One of

[20] Advocates of bridge law antiphysicalism will take the grounding invoked in the principle to be metaphysical, whereas advocates of natural grounding antiphysicalism will construe it as natural.

these views is brought into view through reflection on the way in which we can distinguish *parts* of full grounds. Another emerges when we distinguish different modal varieties of grounding. We have argued that the relative *modesty* of these doctrines is a merit. Not only should that feature help to ally the intuitive queasiness of conservatives who worry that antiphysicalism may be too disruptive of post-enlightenment common-sense: we argued further that it allows advocates of the views to evade the most notorious problem faced by traditional versions of antiphysicalism, by agreeing with physicalists that the causal profiles of phenomenal properties and states can be accounted for in physical terms.

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