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Panquidditist Monism

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According to Russellian monism (RM), the quiddities which underlie the fundamental causal structure of the physical world are also responsible for the existence of phenomenal consciousness. This view has been argued to provide an attractive alternative to physicalism and dualism, but it is plagued by the so-called ‘combination problem’ – namely, the problem of explaining how the quiddities underlying the microphysical structure of a macroscopic conscious agent (e.g., a human being) combine together to constitute his or her phenomenal experiences. In this paper, I will explore a type of monism that avoids the combination problem altogether. According to this view – which I shall call *panquidditist monism* – all causal roles, and not just the fundamental ones, stand in need of quiddities realizing them. Moreover, the quiddities that realize causal roles at one physical level should not in general be seen as grounded in, or otherwise derivative on, the quiddities that realize causal roles at lower levels. Crucial to the tenability of this view is a distinction between two varieties of grounding – one aiming to metaphysically explain the causal properties of various objects ‘from below’ (vertical grounding), the other aiming to metaphysically explaining them ‘from the inside’ (horizontal grounding). I will argue that, thanks to the distinction between vertical and horizontal grounds, panquidditist monism is well-placed to secure the advantages that RM promises – but, because of the combination problem, fails to deliver – vis-à-vis physicalism and dualism.

In the long-standing debate between physicalist and dualist accounts of phenomenal consciousness, Russellian Monism (RM) promises to offer us the best of both worlds. Much like physicalism, it seems capable of securing the causal relevance of phenomenal facts. But, unlike physicalism, it can also vindicate the intuitions that are usually invoked in support of dualism – most notably, the intuition that there are worlds physically indiscriminable yet phenomenally different from our own.¹

Despite its initial appeal, however, RM is not without its difficulties. According to Russellian monists, the categorical properties (or *quiddities*) which underlie the fundamental causal structure of the physical world are also responsible for the existence of consciousness. Now, anyone who advances a view of this sort should be able to provide – at least, in broad outline – an intelligible account of how, say, the quiddities underlying the microphysical structure of the human brain combine to generate conscious experience as we know it. But it

¹ Contemporary sympathizers of this view include Alter & Coleman (forthcoming), Coleman (2012), Goff (2015; 2017), Mørch (2018), Montero (2010), Pereboom (2011), Rosenberg (2004), Stoljar (2001), and Strawson (2006). For a discussion of different versions of RM, see Alter & Pereboom (2019). The view owes its name to the fact that (what are, arguably) early traces of it can be found in Bertrand Russell’s (1927) *The Analysis of Matter*.

is far from clear that this explanatory challenge – generally referred to as the ‘combination problem’ – can be satisfactorily met. Indeed, forceful objections can be raised both against versions of RM according to which phenomenal facts are *grounded in* – that is to say, strictly metaphysically determined by – facts involving the microphysical quiddities, and against versions of RM according to which the relationship between the two kinds of facts is not as strict as one of grounding.

The combination problem strikes me as a very serious one – so serious that I suspect we should simply give up any hope of solving it. The goal of this paper, then, is to explore a version of monism that avoids the combination problem altogether. According to the view I will outline – which I shall call *panquidditist monism* – all causal roles, and not just the fundamental ones, stand in need of quiddities realizing them. Moreover, the quiddities that realize causal roles at any physical level – including the physical level, whatever it is, that is most explanatorily relevant to consciousness – should not in general be seen as grounded in, or otherwise derivative on, the quiddities that realize causal roles at lower levels. The panquidditist monist, then, recognizes all the irreducible quiddities posited by the Russellian monist, and many more.

Crucial to the tenability of this view is a distinction between two varieties of grounding – one aiming to metaphysically explain the causal properties of various objects ‘from below’ (*vertical grounding*), the other aiming to metaphysically explaining them ‘from the inside’ (*horizontal grounding*). I will argue that, thanks to the distinction between vertical and horizontal grounds, panquidditist monism can do a better job than RM at preserving the causal relevance of phenomenal facts, and has the resources to accommodate our dualist intuitions just as well. If this is right, the view is well-placed to secure the advantages that RM promises – but, because of the combination problem, fails to deliver – vis-à-vis physicalism and dualism.

The plan of the paper is as follows. In § 1, I will introduce RM and situate it within the contemporary debate about the metaphysics of consciousness. In § 2, I will clarify what kind of challenges confront Russellian monists as they try to cope with the combination problem. In § 3, I will introduce the distinction between vertical and horizontal grounds and use it to articulate a view I will call *panquidditism*. Finally, in § 4, I will explain how panquidditism can form the basis of an attractive monist account of the place of consciousness in the physical world.

1. Physicalism, dualism, and Russellian Monism

Let me start by introducing some of the terminology employed in contemporary discussions of the metaphysics of consciousness. Philosophers use the term ‘phenomenal consciousness’ to refer to the subjective aspect of an organism’s mental life. Consider, for instance, the mental life of a bat. Insofar as we take bats to be phenomenally conscious, we can ask what it is like for a bat to have the experiences it has – for example, what it is like for it to perceive,

on a given occasion, a tree of a certain size and shape at a certain distance from its body (Nagel 1974). This what is usually referred to as the *phenomenal character* of the bat's experience – a property that the experience shares with any other experience that feels the same way to its subject (Shoemaker 1975; Williamson 1990: 48-49). Philosophers also speak of 'phenomenal properties' and 'phenomenal facts'. A *phenomenal property* is any property of a subject, at a time, characterizing what it is like to be that subject, at that time. A *phenomenal fact* is any fact consisting in the instantiation of a certain phenomenal property by a certain subject, at a certain time. The property of being in pain is a paradigmatic phenomenal property, and, whenever I am in pain, the fact that I am in pain at that time is a phenomenal fact. Much contemporary discussion in the metaphysics of consciousness concerns the place of phenomenal facts in the physical world. Here we can think of the physical world in terms of microphysical properties and microphysical facts – where a *microphysical property* is any of the fundamental properties characterized by a completed physics, and a *microphysical fact* is any fact consisting in the instantiation of a microphysical property.²

According to a certain naturalistic picture of reality, the microphysical facts ground all the other facts (or, at least, all the other facts concerning concrete objects and their properties). The question that divides physicalists and dualists about phenomenal consciousness is whether phenomenal facts provide a counterexample to the naturalistic picture, so conceived. According to physicalists:

[Physicalism] Every phenomenal fact is grounded in microphysical facts

According to dualists, this is not so:

[Dualism] Not every phenomenal fact is grounded in microphysical facts.

For present purposes, we can think of *grounding* as a relationship of strict, non-causal metaphysical determination (since any kind of determination can be full or partial, one can distinguish between full and partial grounding – but throughout the paper, I shall always use 'grounding' for *full* grounding, unless otherwise specified).³ This is the kind of relationship among facts that we express when we say that the Golden Gate Bridge is coloured because it is red, or that the poker is hot in virtue of the fact that its molecules are in motion. According to physicalists about phenomenal consciousness, that relationship holds between certain microphysical facts – presumably, facts involving the bat's microphysical constituents – and

² By a certain object, at a certain time – for brevity, I will hereafter omit these specifications.

³ Since full grounding requires full (rather than partial) determination, it may be urged that the disagreement between physicalists and dualists should be on whether every phenomenal fact is fully grounded in some microphysical facts, *together with a totality fact*. For example, the disagreement should be on whether the fact that I am in pain is fully grounded in certain facts concerning my microphysical constituents, together with the totality fact that those are the only microphysical constituents I have. I shall ignore this complication, as nothing in my discussion hinges crucially on it.

any phenomenal fact characterizing what it is like to be a bat. By contrast, dualists about phenomenal consciousness think that the microphysical facts fail to determine – in the relevant strict, non-causal sense – why the experiences of a bat have the phenomenal characters they do.⁴

RM is typically motivated by a dissatisfaction with both physicalism and dualism. Against physicalism, Russellian monists complain that, if phenomenal facts were really grounded in the microphysical ones, the latter would a priori entail the former.⁵ However, it seems that no such a priori entailment holds – as shown by the fact that we can conceive of worlds that are microphysically like our own, but where either no or different phenomenal facts obtain (‘zombie worlds’ and ‘inverted worlds’, as one may call them). So, Russellian monists think that physicalism should be rejected.⁶

Against dualism, Russellian monists complain that, if phenomenal facts were not grounded in the microphysical ones, there would be no distinctive causal work for them to carry out in the physical world (for, given the causal closure of the physical, all causal work in the physical world is already carried out by facts that *are* grounded in, or identical to, the microphysical ones). But facts that do not carry out any distinctive causal work in the physical world are idle danglers that might just as well be eliminated. So, Russellian monists see dualism as an unstable position – one that, contrary to its own spirit, risks encouraging a form of eliminativism about the phenomenal.⁷

How do Russellian monists carve out space for a ‘third’ position, alternative to both physicalism and dualism, and immune to the problems they face? To answer this question, we need to introduce some new terminology. Let us put the term ‘microphysical properties’ momentarily aside and introduce, in its place, a distinction between ‘microphysical roles’ and ‘microquiddities’. A *microphysical role* is any of the fundamental causal roles characterized by a completed physics. A *microquiddity* is any of the properties that act as categorical bases

⁴ Note that physicalism and dualism, as I characterize them here, are theses concerning the grounds of phenomenal consciousness. In what follows, by ‘physicalists’ and ‘dualists’ I always mean physicalists and dualists about phenomenal consciousness. Chalmers (2016a, 21-22) works with a grounding-based characterization of the physicalism vs. dualism debate not too different from this. See O’Conaill (2018) for a defense of this kind of approach. Grounding-based characterizations of physicalism are not without problems (see Melnyk (2016), Wilson (2016) and the contributions by Hellie & Wilson, Shumener and Rabin in the first part of this volume). Readers who find these problems insurmountable are free to suspend judgment about whether the views I am calling ‘physicalism’ and ‘dualism’ deserve these labels. The account I will outline in § 3 and 4 should be of philosophical interest whether or not they do.

⁵ More precisely: a transparent specification of the latter would a priori entail a transparent specification of the former. A ‘transparent’ specification of a fact is a specification of that fact employing only ‘transparent’ concepts, i.e., concepts that reveal the nature of the properties they express. I borrow this terminology from Goff (2015). Not everyone agrees that, if physicalism holds true, we should expect this kind of a priori entailment – see, for instance, Block (2007).

⁶ For discussion of the conceivability argument against physicalism, see Chalmers (2009).

⁷ For discussion of this kind of causal argument against dualism – though not in the context of a defense of RM – see Kim (1998, 118-120). Cf. also Chalmers (2016a), who argues that, whether or not it leads to eliminativism, an epiphenomenal view of phenomenal facts is contradicted by intuitive observation.

for the microphysical roles.⁸

To clarify this new distinction, consider the property of having mass, and suppose that a completed physics will include it among the fundamental properties needed to describe reality. We can understand the *mass role* as a property such that having it requires no more and no less of its bearers that they do what things with mass do according to the completed physics (e.g., attracting other things with mass, resisting acceleration, etc.). The *mass quiddity*, on the other hand, is the categorical basis of the mass role, viz. whatever property actually ‘realizes’ or ‘occupies’ that role. According to the definitions above, the mass role would be a microphysical role and the mass quiddity would be a microquiddity.⁹

There are two basic insights behind RM. The first is that any description of reality, if it is to be complete, must recognize a dualism of roles and quiddities: according to Russellian monists, we cannot characterize the world solely in terms of what various things *do* in relation to other things (i.e. in terms of the roles that various things play), for that would leave out the all-too-important question of how things need to *be* in order to do what they do (i.e. it would leave out things’ quiddities).¹⁰ The second insight is that we can find room for phenomenal facts in the physical world if we relate them, not so much with the roles, but with the quiddities of the fundamental constituents of reality.

To arrive at a more precise formulation of the view, let us call any fact consisting in the instantiation of a microphysical role a *microexternal fact*, and any fact consisting in the instantiation of a microquiddity a *microinternal fact*.¹¹ With these stipulations in place, RM can be defined as the thesis that:

[Russellian Monism] Every microexternal fact is grounded in microinternal facts, and every phenomenal fact that is not itself microinternal depends on microinternal facts.¹²

To get the gist of the view, consider again the conscious experiences of a bat. For a Russellian

⁸ Here and in what follows, I use the term ‘categorical’ in roughly the sense of Sider’s (2001). Unlike roles, categorical properties do not ‘point beyond’ their instances, but ‘involve what objects are actually like’ (Sider 2001, 41). I shall say more about the roles / quiddity dichotomy below.

⁹ Note that we can remain neutral on the question whether the word ‘mass’, as it would be employed in a completed physics, refers to the mass role, the mass quiddity, or something else. See Stoljar (2001) for discussion.

¹⁰ This is equivalent to the denial of ‘causal structuralism’, as defined by Hawthorne (2006). Arguments invoking the metaphysical and/or epistemic incompleteness of a description of reality involving only causal roles can be found in Goff (2017, ch. 6), Montero (2015), Pereboom (2013), Seager (2006), and Strawson (2008). Cf. also Chan’s (forthcoming) discussion of the ‘argument from instantiation’ and the ‘argument from intimacy’.

¹¹ I use the ‘external’/‘internal’ dichotomy because I want to remain as neutral as possible on the question whether the distinction between microexternal and microinternal facts, as just defined, aligns with other, more familiar distinctions in metaphysics and epistemology – for example, between extrinsic and intrinsic, dispositional and non-dispositional, relational and non-relational, or scrutable and inscrutable facts. For further discussion, see Alter and Pereboom 2019.

¹² Some Russellian monists may wish to allow phenomenal facts that are not themselves microinternal to depend on certain microinternal facts *together with some irreducible structural (for example, spatiotemporal, causal, or mereological) facts* (cf. Chalmers 2016a, 25). For simplicity, I shall ignore this complication.

monist, we cannot expect to find an explanation of the phenomenal character of a bat's experience if we focus exclusively on how things are 'externally' with the bat – that is to say, if we focus exclusively on the microphysical roles instantiated by the bat's fundamental constituents. However, we could find such an explanation if we had access to how things are 'internally' with the fundamental constituents of the bat such that, 'externally', the bat can do what it does – in other words, if we had access to the quiddities of the fundamental constituents of the bat. The general idea is that the existence and the character of phenomenal consciousness do not depend solely on the fact that things push and pull each other in the way they do, but also on the fact that certain categorical properties rather than others underlie the pushings and the pullings.

Three observations are in order before we proceed. First, notice that the above characterization of RM leaves it open whether some or all of the microinternal facts are also phenomenal facts. On this characterization, then, panpsychism can be seen as a particular variant of RM – one on which some or all of the fundamental constituents of physical reality instantiate phenomenal properties.

Second, notice that I used the generic term 'depend', rather than the specific term 'ground', to describe the relationship that, according to Russellian monists, holds between the phenomenal facts that are not themselves microinternal and the microinternal ones. This is because Russellian monists disagree on the nature of that relationship, and only some of them take it to be one of grounding, properly so called. The point will become especially relevant in the next section.

Third, notice that the characterization above leaves it open whether RM should count as a physicalist or a dualist view. The issue hinges, not just on how various versions of RM understand the dependence of the phenomenal facts on the microinternal ones, but also on whether both the microphysical roles and the microquiddities qualify as 'microphysical properties', i.e., as properties that a completed physics would be in the business of characterizing. If we think that a completed physics will only ever deal with pushings and pullings – i.e., with causal roles – we should identify the microphysical properties with the microphysical roles and see RM as a kind of dualism. If, on the other hand, we take the microphysical roles and the microquiddities to be two equally legitimate species of microphysical properties, we may have no problem seeing RM as a physicalist position, albeit of an unusual kind.¹³

According to Russellian monists, a view that distinguishes microphysical roles and microquiddities – difficult as it may be to classify it – can accommodate our dualist intuitions without turning phenomenal facts into causally idle danglers.

Consider, first, inverted worlds – worlds that are microphysically like our own but where different phenomenal facts obtain than in actuality. According to Russellian monists,

¹³ Cf. Chalmers (2016a), who suggests that RM offers a 'third way' between physicalism and dualism precisely because it appeals to properties – the microquiddities – that we can neither comfortably include among nor comfortably exclude from the microphysical ones. For skepticism about this claim, see Kind (2015).

when we are imagining an inverted world, we are imagining a world where the same roles are ‘realized’ or ‘occupied’ by different quiddities. Russellian monists may well regard this as a genuine metaphysical possibility (at least, they may do so if they accept the idea that the same microphysical roles can in principle be ‘realized’ or ‘occupied’ by different microquiddities in different possible worlds).

Next, consider zombie worlds – worlds that are microphysically like our own but without any phenomenal facts. By Russellian monist lights, when we are imagining a zombie world, we are imagining a world whose fundamental constituents play the same causal roles as in the actual world, but such roles are ‘realized’ or ‘occupied’ by the wrong quiddities – quiddities whose instantiation fails to generate any conscious experience. Again, Russellian monists may well regard this as a genuine metaphysical possibility (at least, they may do so if they think that only certain specific combinations of quiddities can give rise to conscious experience).¹⁴

At the same time, Russellian monists, unlike dualists, seem well-placed to secure the causal relevance of phenomenal facts. Recall that, according to RM, the microinternal facts ground the microexternal ones. If this supposition is correct, one could plausibly argue that the microquiddities share – indeed, are the foundations of – the causal relevance of the microphysical roles they ‘realize’ or ‘occupy’. And since phenomenal facts are said to depend on the microinternal facts, they could be seen as inheriting or somehow participating in this causal relevance. For example, facts characterizing what it is like to be a bat would depend on – and, to that extent, participate in the causal relevance of – the microinternal facts involving the bat’s microphysical constituents.¹⁵

In a sense, then, Russellian monists encourage us to eat our cake and have it too. Thanks to the distinction between roles and quiddities – in my terminology, between the ‘external’ and the ‘internal’ side of things – their view seems to combine the advantages of more traditional forms of physicalism and dualism, while avoiding their respective costs. But does it, really?

2. Troubles for Russellian Monism

In the last section, we saw that Russellian monists do not limit themselves to positing microquiddities but go on to claim that phenomenal facts (or at least, those phenomenal facts that are not themselves microinternal) somehow depend on certain microinternal facts in

¹⁴ Alternatively, Russellian monists may suggest that, when we imagine a ‘zombie world’, we are imagining a world where the same roles are instantiated, but without being ‘realized’ or ‘occupied’ by any quiddities. This – they might say – is an impossible fiction (without *some* quiddities in place, there would be no pushings and pullings), but it results from an exercise of abstraction which is – at least, to a certain extent – sensible and legitimate: we know so little about quiddities that we are naturally led to think we can ignore them when we fantasize about alternative possibilities.

¹⁵ I will raise some doubts about this way of securing the causal relevance of phenomenal facts in the next section.

which the microquiddities are involved. This dependence claim has come to be regarded as the chief asset and the crux of RM – its chief asset because it allows Russellian monist to carve out space for a ‘third’ position, alternative to both traditional versions of physicalism and traditional versions of dualism; its crux because the supposition that that there is such a dependence exposes Russellian monists to the infamous ‘combination problem’. This is the problem of spelling out how, exactly, the quiddities underlying the microphysical structure of a macroscopic conscious agent combine together to constitute his or her phenomenal experiences. Take the fundamental physical constituents of my brain. Whatever microphysical roles and microquiddities they might turn out to instantiate according to a true and complete physics, the question arises as to why and how their coming together in my skull in the particular way they do should give rise to my current conscious experience – as opposed to a very different type of experience, or to no experience at all.

Ultimately, I do not think that Russellian monists can provide a satisfactory answer to this question. But before I explain the reasons for my scepticism, I want to make an important preliminary point concerning the way in which RM is supposed to secure the causal relevance of phenomenal facts. To this end, let me introduce another bit of terminology. So far, I have been talking exclusively of ‘microphysical roles’ and ‘microexternal facts’ – that is to say, I have been focusing on causal roles, and facts involving such roles, *at the fundamental level*. I now want to include in my focus what happens at the other levels. Let a *macrophysical role* be any of the non-fundamental causal roles characterized by a completed version of the natural sciences – for example, the gene role, if genes will find their way into a completed biology. Coordinately, let a *macroexternal fact* be any fact consisting in the instantiation of a macrophysical role. And let a *macrophenomenal fact* be any phenomenal fact that is not itself microinternal (if no microinternal facts are phenomenal, the macrophenomenal facts are all and only the phenomenal ones).

Given these definitions, and considering everything I have said so far about RM, one might think that the Russellian monist picture of the place of consciousness in the physical world will look roughly as follows (Figure 1):



Here the grounding arrow that goes from the microinternal facts to the microexternal ones signals the fact that the fundamental constituents of the physical world do the things they do (i.e., instantiate certain microphysical roles rather than others) because they are, ‘internally’, the way they are (i.e., instantiate certain microquiddities rather than others). The grounding arrow between microexternal and macroexternal facts represents the familiar assumption that the causal phenomena studied by the special sciences (e.g., biology) are metaphysically

determined by the causal phenomena studied by physics. And the dashed arrow indicates that the macrophenomenal facts depend, in some to-be-specified way, on the microinternal ones.

I think it is important to see that the diagram, as it stands, falls short of capturing a stable version of RM. For what is supposed to secure the causal relevance of the macrophenomenal facts on the picture we are presently envisaging? The proponent of the diagram may argue that, on her view, the microinternal facts share the causal relevance of the microinternal facts they ground. For, in general, it is not entirely implausible to suppose that:

[*Sharing*] When a fact F is grounded by another fact G , G is causally relevant to any fact that F is causally relevant to.¹⁶

But note that, even if *Sharing* holds, no reason has yet been given to think the macrophenomenal facts are causally efficacious, as opposed to being causally inert ‘shadows’ of the microinternal facts on which they depend. The point has been rightly noted by Robinson, who says that “even if grounding of physical structural relations is thought to give some kind of causal role to the [microquiddities], RM does not *thereby* provide a causal role for our sensations [i.e., for the macrophenomenal facts]” (Robinson’s (2018, 107)).¹⁷

Note that the problem would not arise if Russellian monists could simply invoke a principle along the lines of:

[*Inheritance*] When a fact F is grounded in (or otherwise dependent on) another fact G , F is causally relevant to any fact that G is causally relevant to.¹⁸

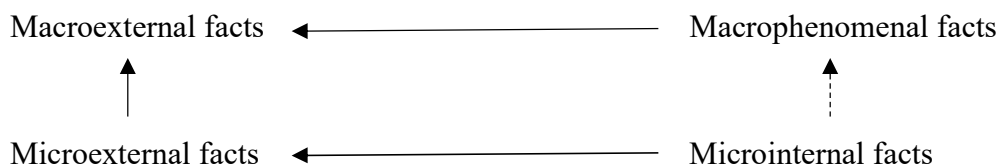
But this principle is overly strong. For example, suppose that the fact that I wave a red flag at the bull causes the fact that the bull gets angry. Plausibly, the fact that I wave a red flag at the bull grounds the fact that I wave a coloured flag at the bull. However, contrary to what *Inheritance* dictates, it may well be that the fact that I wave a coloured flag at the bull is *not* causally relevant to the fact that the bull gets angry (it may be that the bull responds specifically to red flags, and not to coloured flags in general). For all the diagram of Figure 1 requires, something similar could be true of the macrophenomenal facts – it could be that they are grounded in facts that are causally efficacious without being *themselves* causally efficacious.

How should Russellian monists address this concern? Given their independent willingness to rely on *Sharing* to secure the causal relevance of the microinternal facts, I think they would be well-advised to adopt a picture along the following lines (Figure 2):

¹⁶ I do not mean to suggest that a defense of the causal relevance of microinternal facts based on *Sharing* is entirely uncontroversial (for skepticism, see Howell (2015) and Alter & Coleman (forthcoming)). But if RM is to get off the ground, some principle along the lines of *Sharing* seems indispensable – so, from now on, I am going to reason on the assumption that *Sharing* holds true.

¹⁷ See also Chan (forthcoming) for a different argument supporting the same conclusion.

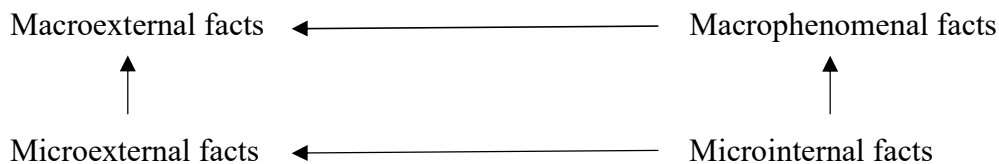
¹⁸ A version of the claim that macrophenomenal facts can ‘inherit’ causal relevance from the microinternal facts in which they are grounded is defended by Chalmers (2016a, 30).



Here we have the same arrows as in Figure 1 but, in addition, we also have a grounding arrow going from the macrophenomenal facts (e.g., the fact that I am now in pain) to certain corresponding macroexternal facts (e.g., the fact that my brain is now in such-and-such functional state). Given *Sharing*, this additional grounding connection will ensure that the macrophenomenal facts share the causal relevance of the macroexternal ones. And – assuming that the relevant macroexternal facts are causally efficacious – that seems causal relevance enough. If this suggestion is on the right track, it is Figure 2, rather than Figure 1, that captures the most promising version of RM, and so it is against the backdrop of *this* kind of Russellian monist picture that we should evaluate the prospects of addressing the combination problem.

It is commonplace to distinguish two kinds of Russellian monist responses to this problem, depending on how the idea that the macrophenomenal facts depend on the microinternal ones is unpacked. According to what may be called ‘constitutive’ RM, the microinternal facts *ground* the macrophenomenal ones. According to what may be called ‘emergent’ RM, the relationship between the microinternal and the macrophenomenal facts is, instead, broadly *causal* in nature.¹⁹ Let me examine each of these two options in turn.

Constitutive Russellian monists work with a version of the diagram of Figure 2 that looks as follows (Figure 3):



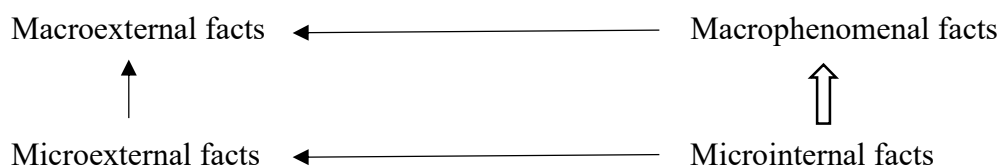
Here the dashed arrow between the microinternal and the macrophenomenal facts has been replaced by a non-dashed arrow representing grounding. The result is a picture on which the microinternal, microexternal, macroexternal, and macrophenomenal facts are all tied together by a tight network of strict metaphysical determination.

Along with several others, I think that a view of this sort would have a lot going for it, if only assumption that the microinternal facts ground the macrophenomenal ones could be plausibly defended. Unfortunately, however, I don’t think it can. Recall the standard Russellian monist complain against physicalism: we cannot take the phenomenal facts to be grounded in the microphysical ones because the latter fail to a priori entail the former.

¹⁹ For a proposal invoking ‘intelligible causation’, see Mørch (2014) and Goff (2015).

Assuming this ‘a priori entailment test’ is a legitimate tool to adjudicate claims of grounding, we should be allowed to apply it to the claim that the microinternal facts ground the macrophenomenal ones. And, plausibly, the claim fails to pass the test. The microinternal facts do *not* a priori entail the macrophenomenal ones. On the contrary, it seems one could perfectly well conceive of a world in which the same microinternal facts obtain as in the actual world but either no or different macrophenomenal facts obtain. If the a priori entailment test is legitimate, we should conclude that the microinternal facts do not ground the macrophenomenal ones, contrary to what constitutive RM requires. (One could, of course, call the legitimacy of the a priori entailment test into question, or claim that our conceivability intuitions are misguided. But, dialectically speaking, these moves would risk undercutting the motivation for endorsing any version of RM in the first place – for physicalists, too, could make parallel moves in response to the Russellian monist argument against their view).²⁰

What about emergent RM? On this view, the right picture of the place of consciousness in the physical world looks roughly as follows (Figure 4):



Here a thick white arrow indicates that the microinternal facts do not ground the macrophenomenal ones but, instead, bear some kind of causal relationship to them. Causation does not imply any kind of a priori entailment of the effect by the cause. So, whatever problems may affect emergent RM are going to be different from the problems affecting its constitutive counterpart, which arise from the specific nature of grounding.

The usual complaint against emergent RM is that, by relaxing the relationship between the microinternal and the macrophenomenal facts, it risks jeopardizing the causal relevance of the latter. For example, suppose you retract your arm after touching a burning hot surface and feeling scorching pain. And suppose that one sufficient cause of the movement of your arm is the macroexternal fact that your brain is in a certain functional state. There is no obvious problem seeing how certain microinternal facts can enter the causal chain leading up to your arm movement: after all, they are the ‘internal’ grounds of the microexternal facts underlying the fact that your brain is in such-and-such functional state. But what about the macrophenomenal fact that you feel scorching pain? Since, on the Russellian monist picture, this fact is only causally (or quasi-causally) related with the microinternal facts, it seems to be in competition with them for causal relevance – so either it gets cut out of the causal chain, or it turns out to causally overdetermines your arm

²⁰ For a more detailed discussion of the difficulties faced by constitutive RM, see Chalmers (2016a, § 6) and Goff (2015).

movement. Generalizing from this example, the complaint is that emergent RM is committed either to treating macrophenomenal facts as epiphenomenal or to positing widespread causal overdetermination.²¹

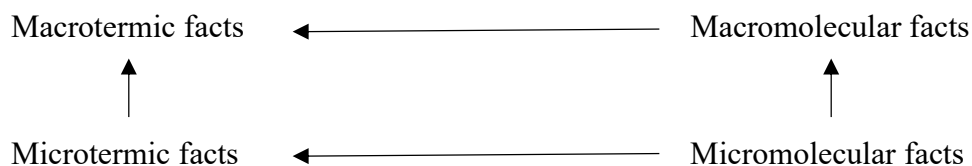
I do not believe, however, that this quite the right objection to raise against emergent RM – and the reason has to do with *Sharing*. I suggested above that *Sharing* should be seen as a crucial component of the Russellian monist package, for it is *Sharing* (and not *Inheritance*) that allows Russellian monists to secure the causal relevance of macrophenomenal facts. The point applies to emergent RM, too. It does not matter that, on this version of RM, the macrophenomenal facts are caused (and not grounded) by the microinternal ones. If the macrophenomenal facts ground the macroexternal facts, then, by *Sharing*, they can be said to participate in their causal relevance. And there should be no question that macroexternal facts *are* causally efficacious. So, assuming that things are as in the diagram of Figure 4, the macrophenomenal facts are not threatened with causal irrelevance. Emergent Russellian monists can say that your scorching pain is causally relevant to your arm movement because it grounds the functional state that causes it.

The worry with the diagram represented in Figure 4 is a different – and, in my opinion, more serious – one. Notice that, on that diagram, two different grounding arrows converge on the macroexternal facts. As we have just seen, such facts are supposed to be grounded by certain macrophenomenal facts. But, crucially, they are *also* grounded by the underlying microexternal facts. The latter is, surely, a link of full ground, because what happens, ‘externally’, at the micro-level completely determines what happens, ‘externally’, at the macro-level. And this means that, whatever contribution is made, at the macro-level, by the macrophenomenal facts overdetermines the macroexternal facts. In other words, even if emergent Russellian monists cannot be accused of positing widespread *causal* overdetermination, they can still be accused of positing widespread *metaphysical* (i.e., ground-theoretic) overdetermination. On their preferred picture of the place of consciousness in the physical world, the fact that I am in such-and-such functional state is grounded by two metaphysically independent sets of facts – it is grounded ‘from the inside’ by the macrophenomenal fact that I am in pain, and ‘from below’ by the microexternal facts that the microphysical constituents of my brain instantiate the microphysical roles they do. And the same goes for plenty of other macroexternal facts – presumably, all those that involve the instantiation of macrophysical roles that a completed science will associate with the physical correlate of consciousness, whatever that might be.

It can be argued that the worry applies specifically to *emergent* RM. On the constitutive Russellian monist picture (Figure 3), two different grounding arrows converge on the macroexternal facts. But, in the context of constitutive RM, this convergence need not be seen as a worrisome sign of metaphysical overdetermination. To see why, consider the following analogy. Imagine a Warm House where facts concerning the amount of molecular motion in each room (‘micromolecular facts’) ground both facts concerning the average

²¹ Cf. Chalmers’s (2016b, 195) related discussion of what he calls ‘emergent panpsychism’

temperature in each room (‘microtermic facts’) and facts concerning the amount of molecular motion in the entire house (‘macromolecular facts’). In this scenario, it is natural to think that facts concerning the average temperature in the entire house (‘macrotermic facts’) would be grounded – indeed, fully grounded – both by the microtermic and by the macromolecular facts, as represented in the following diagram (Figure 5):



Plausibly, there is nothing metaphysically objectionable about this situation. It is true that two separate grounding paths connect the micromolecular to the macrotermic facts – but, intuitively, such paths correspond to two different ways of analyzing or ‘parsing’ of one and the same instance of metaphysical determination, not to two independent sources of grounding. The same applies, *mutatis mutandis*, to the situation described by constitutive RM, where two separate grounding paths connect the microinternal to the macroexternal facts.²²

Advocates of emergent RM cannot try to assuage worries of metaphysical overdetermination in this way. On their account, the macrophenomenal facts are *not* grounded in the microinternal ones, and so the analogy with the Warm House scenario fails. One cannot say that the two paths connecting the microinternal to the macroexternal facts in the diagram of Figure 4 are simply different ways of analyzing or ‘parsing’ of one and the same instance of metaphysical determination if one path involves only grounding links and the other doesn’t.²³

These difficulties – having to do with the failure of the a priori entailment test in the case of constitutive RM, and with the metaphysical overdetermination problem in the case of emergent RM – may not be insurmountable. But I think they are serious enough to motivate the search for an alternative approach. Constitutive and emergent versions of RM differ in the way they cash out the claim that phenomenal facts depend on the microinternal ones. What if we simply gave up this claim and, with it, the combination problem?

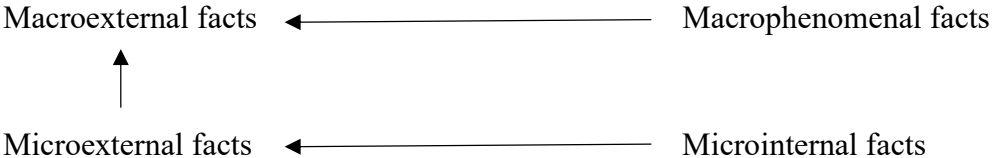
In a way, the rationale for this move is already implicit in the dialectic that led us up to this point. In my discussion of emergent RM, I pointed out that – insofar as we accept

²² Thanks to Julien Dutant for suggesting this analogy.

²³ Indeed, far from assuaging worries of metaphysical overdetermination, the emergentist claim that the microinternal facts cause the macrophenomenal one makes things worse – effectively positing one implausible coincidence on top of another. Not only, on the picture we are invited to entertain, are the macroexternal facts grounded by two fairly independent sets of facts (coincidence 1). But one of these set of facts (namely, the set of microexternal facts) happens to be grounded in the cause of the other (coincidence 2). The contrast with the Warm House scenario could hardly be any starker.

Sharing – we can secure the causal relevance of the macrophenomenal facts by exploiting the grounding connection they bear to the macroexternal ones. Any additional claim to the effect that the macrophenomenal facts depend on the microinternal ones is unnecessary to this task. If we could help ourselves to such a claim and go on to gloss it in terms of grounding, we could perhaps pre-empt worries of metaphysical overdetermination of the kind faced by emergent RM by relying on the analogy with the Warm House scenario. But I think we should come to terms with the fact that – given the failure of the a priori entailment test – the project of grounding the macrophenomenal facts in the microinternal ones cannot be carried out. And this means that the analogy with the Warm House scenario is simply not to be had. What are we to do, then?

It is tempting to think that, insofar as we give up on the idea that the macrophenomenal facts depend on the microinternal ones, we are bound to operate with a picture of the following kind (Figure 6):



Here there is no arrow whatsoever between the microinternal and the macrophenomenal facts, but the other arrows are the same as in Figures 2, 3, and 4. As with Figure 3, then, the worry looms large that we will have to describe the macrophenomenal facts as overdetermining the macroexternal ones. But I want to suggest that we can adopt a subtly but importantly different account. On the view I am going to explore in what follows, even if a certain kind of grounding relationship holds between the macrophenomenal facts and the macroexternal ones, it is not the *same* kind of grounding relationship that holds between the microexternal and the macroexternal facts. And because it is not the same kind of grounding relationship, the macroexternal facts should not be seen as metaphysically overdetermined ‘from below’ (by the microexternal facts) and ‘from the inside’ (by the macrophenomenal facts). Instead, we should see them as admitting of two different but equally legitimate types of metaphysical explanation – one associated with what I shall call ‘vertical grounding’, the other associated with what I shall call ‘horizontal grounding’. The task for the next section is to clarify the distinction between vertical and horizontal grounding and explain how it might form the basis of a more promising monist view than the ones reviewed so far.

3. H-Grounds, V-grounds, and Panquidditism

To see how introducing a distinction between vertical and horizontal grounds may contribute to dissolve the worries of metaphysical overdetermination I discussed in the last section, in

connection with emergent RM, we need to take a step back and get clearer on the source of those worries themselves.

Taking inspiration from Sider (2003), we can distinguish two different objections to the idea that certain macroexternal facts – once again, those that involve the instantiation of the macrophysical roles that a completed science will associate with the physical correlate of consciousness, whatever that might be – should be overdetermined ‘from below’ and ‘from the inside’. The *coincidence objection* is the objection that it would be a great coincidence if each of the macroexternal facts in question turned out to bear the same grounding relationship to two independent facts (or set of facts). Since any coincidence involves an unexplained correlation, views implying this result should be regarded as explanatorily unsatisfactory. The *epistemic objection* is the objection that we would be less than fully justified to believe in the existence of the macrophenomenal facts if these turned out to play a merely overdetermining role. Other things being equal, we should not postulate more facts than are needed to explain what happens at the macroexternal level. And there already are facts that explain what happens at the macroexternal level – namely the underlying microexternal facts.

Now, suppose we could show that horizontal and vertical grounding are two different types of grounding, each with its own explanatory role. This dualism of grounds, together with the assumption that the relevant macroexternal facts are horizontally grounded (H-grounded) by certain macrophenomenal facts and vertically grounded (V-grounded) by certain microexternal facts, would provide us with a response to both the coincidence and the epistemic objection.

The response to the coincidence objection would be that the relevant macroexternal facts do not bear the same grounding relationship to two independent facts (or sets of facts). On the proposed account, there would be two independent facts (or sets of facts) to which the relevant macroexternal facts bear *different* grounding relationships. But, insofar as the explanatory roles of the two grounding relationships in question are clearly demarcated, this should not be seen as an objectionable coincidence.

An analogy will help make this response clearer. Consider Aristotle’s theory of the four causes. According to this theory, every phenomenon for which we can ask a ‘why?’ question admits of four causes – material, formal, efficient, and causal. We can think of each of the four causes as providing a different type of explanation of the phenomenon in question. Importantly, each explanation is complete – it provides a full answer to the question ‘why?’, under one of its admissible readings – and yet the explanations are *not* in competition with one another.²⁴ Indeed, whatever objections may be raised against Aristotle’s theory, it would be misguided to object that it posits suspiciously systematic coincidences just because it assigns four distinct causes to each explainable phenomenon. The four causes in question are supposed to be play different theoretical roles – and this means that, according to Aristotle,

²⁴ Perhaps the point is most forceful in the case of efficient and final causes. While it is clear the explanation of a certain phenomenon in terms of its efficient cause and the explanation of the same phenomenon in terms of its final cause may each be perfectly complete, explanations involving the material and the formal cause may seem complementary and, therefore, incomplete when considered in isolation from one another.

we have overdetermination whenever a certain phenomenon has, say, two independent efficient causes, not just when, alongside its efficient cause, it also has an independent formal, material, and final cause. Analogous considerations apply to an account according to which V-grounding and H-grounding are different types of grounding, each with its own explanatory role. Provided that the distinction between the two types is in good standing, it is only having two independent V-grounds (or two independent H-grounds) that will make for an objectionable coincidence – having both V- and H-grounds won't.

The response to the epistemic objection would be closely related. Suppose, once again, that V- and H-grounding are two types of grounding with distinct explanatory roles. Then we should not be forced to choose one type of grounding over the other, any more than a follower of Aristotle should be forced to choose between explaining a certain phenomenon in terms of its material cause and explaining it in terms of its formal (or efficient, or final) cause. On a view admitting both V- and H-grounds, whenever we consider a certain macroexternal fact, we can be interested in explaining it in terms of its H-grounds or in terms of its V-grounds. And, since both explanations are legitimate, we can be justified to believe in the existence of the macrophenomenal facts based on the role they play in either of them.

Views like RM, which rest on a distinction between roles and quiddities, are naturally hospitable to a dualism of V- and H-grounds. Consider a concrete example of a macroexternal fact. Forkhead box protein P2 (FOXP2) is a gene whose primary functions is in human development of speech and language. Let 'Foxy' be the name of a token molecule of FOXP2. Assuming that the gene role will be one of non-fundamental causal roles characterized by a complete biology, the fact that Foxy is a gene qualifies a 'macroexternal fact'. Now, suppose we ask for the metaphysical grounds of this fact. This is asking why (or in virtue of what) the fact that Foxy is a gene obtains – where 'why' and 'in virtue of what' are given the appropriate strict, non-causal reading. Someone who is attracted to a view like RM may well think that there are two different ways of hearing – and, therefore, answering – this question. On the one hand, one may be asking how things push and pull each other, at the micro-level, such that, as a consequence, Foxy does the things that genes do (e.g., attaching to other proteins, binding to DNA etc.). In this case, a Russellian monist will expect the answer to mention the structure and causal profile of Foxy's submolecular constituents. Alternatively, one may be asking how things are, 'internally', with Foxy such that, as a consequence, this protein molecule pushes and pulls other things in the way it does. In this case, a Russellian monist may expect the answer to mention the quiddities of Foxy's submolecular constituents (or, perhaps, their combination).

Reflection on this example invites a general distinction between two types of grounding. One type – the type that I suggest calling *vertical* – explain facts involving physical roles of any sort (call them 'external' facts) in terms of other, more fundamental facts of the same sort. This is exemplified by the way in which facts involving Foxy's submolecular constituents contribute to bring about the fact that Foxy is a gene. The other type – the type that I suggest calling *horizontal* – explains external facts in terms of facts involving quiddities of some sort ('internal' facts, as I am going to call them). This is

exemplified by the way in which, on the Russellian monist picture, facts involving the microquiddities of Foxy's submolecular constituents contribute to ground the fact that that Foxy is a gene.

Whenever a new notion is introduced by means of examples – as I am presently doing – it is always up for grabs which features of the examples should be taken to be essential to the new notion, and which ones should be regarded as accidental. Three aspects of the contrast between the V- and the H-grounds of the fact that Foxy is a gene seem to be more significant than the rest. I am inclined to regard these aspects as essential to the distinction between vertical and horizontal grounding, but I suppose this is a matter of potential controversy (just as it is a matter of controversy whether grounding is, e.g., irreflexive, asymmetric, and transitive, as the first and most paradigmatic examples of this notion originally suggested).

The first aspect concerns the kind of facts that V- and H-grounding can relate. It strikes me as essential to V-grounding that it is *homogeneous* – meaning that it can only relate external facts to other external facts (or, possibly, internal facts to other internal facts). By contrast, H-grounding seems essentially *heterogeneous* – meaning that it holds exclusively between internal and external facts. Homogeneity seems essential to V-grounding because this type of grounding is designed to take us from micro- to macro, from smaller to bigger, from simpler to more complex phenomena, and these are all transitions that do not involve any 'jump' from facts involving quiddities to facts involving roles, or vice versa. We just get more of the same kind of stuff, only at another level of fundamentality. By contrast, what H-grounding does is precisely getting us across the divide between external facts – once again, facts involving micro- or macrophysical roles – and internal facts – facts involving quiddities. Since it is only roles that need to be 'realized' or 'occupied', it is only external facts that need to be H-grounded. And since it is only quiddities that can truly 'realize' or 'occupy' a role, it is only internal facts that get to H-ground other facts. Thus, H-grounding never relates external facts to external facts or internal facts to internal facts.

The second aspect concerns the kind of metaphors we can associate with V- and H-grounding. When we describe how facts involving Foxy's submolecular constituents metaphysically determine the fact that Foxy is a gene, it is natural to use causal vocabulary. For example, we may say that the pushings and pullings at the micro-level 'bring about', 'produce' or 'result in' the fact that Foxy can attach to other proteins, bind to DNA, and do all the other things that genes do. This suggests that V-grounding is a type of grounding for which the analogy with causation is most appropriate: when a fact V-grounds another, the second can be regarded as a metaphysical effect or consequence of the first.²⁵ H-grounding seems different. Facts involving quiddities do not really 'bring about', 'produce' or 'result in' facts involving roles. Rather, they somehow specify the concrete, categorical way in which such facts are implemented – if you want, the 'material' out of which such facts are constituted. Here the metaphor of certain facts 'realizing' other facts seems more adequate

²⁵ For discussion of the parallel between grounding and causation, see Schaffer (2016) and Wilson (2018).

than any causal metaphor. If V-grounding is a kind of metaphysical causation, H-grounding is better conceived of as kind of metaphysical realization.

The third and last aspect concerns the modal implications of V- and H-grounding links. There is a debate among scholars of grounding about whether the grounds of a fact should be said to necessitate that fact. If we distinguish between V- and H-grounds, we can take a differential stand on the issue. Necessitation seems most plausible in the case of V-grounding. For example, consider again the V-grounds of the fact that Foxy is a gene. These are facts concerning the microphysical roles of Foxy's submolecular constituents. It seems natural to think that, once these facts are in place, everything concerning the behaviour of Foxy will inevitably follow. What happens at the macro-level seems to be strictly determined by what happens underneath. By contrast, it is less than clear that the H-grounds of a fact should be taken to necessitate that fact. For not only does it seem possible for one and the same external fact to be 'multiply realized' by different internal facts, but it also seems at least *prima facie* possible for one and the same internal fact to 'realize' one external fact in one world, and a completely different external fact in another. For example, it seems at least *prima facie* possible for the mass quiddity to 'realize' or 'occupy' the mass role in this world and the charge role in a different world.²⁶

So much for the distinction between vertical and horizontal grounds. Let our working hypothesis be that the distinction is in good standing, and that any worries of metaphysical overdetermination concerning the macroexternal facts can in principle be dissolved by appeal to this distinction, in the way I suggested above. What kind of account incorporating these hypotheses can secure a metaphysical 'niche' for macrophenomenal facts to occupy, without falling back on RM?

To answer this question, let me introduce one last bit of terminology. Let us say that two external facts – two facts consisting in the instantiation of some micro- or macrophysical role – are *causally discernible* when they involve either different objects or different roles. For example, the fact that Foxy is a gene is causally discernible from the fact that Foxy is a molecule, because the gene role and the molecule role are different roles. And the fact that Foxy is a gene is causally discernible from the fact that Roxy is a gene because Foxy and Roxy are (let us suppose) two distinct FOXP2 molecules. Also, let us say that a fact has some *dedicated* H-ground when there is some fact that H-grounds it and no fact causally discernible from it. I think that the account we need is something along the lines of:

[Panquidditism] Every external fact has some dedicated H-ground.

Panquidditism says that, whenever an object instantiates a certain causal role, the corresponding fact stands in need of a metaphysical explanation appealing to quiddities – an

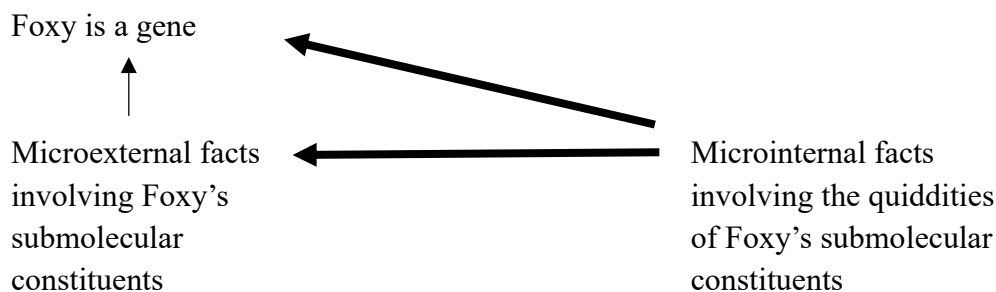
²⁶ Cf. the brand of RM discussed by Morris (2016) and the 'neo-Humean view' discussed by Hawthorne (2006). Against this, it may be said that, unless H-grounds necessitate what they ground, they cannot *explain* it in the way that any genuine relationship of grounding requires. I will not try to settle this issue here.

explanation that applies to the fact in question and to no other fact that is causally discernible from it. In a slogan, the view is that ‘every outside has its own inside’.

If panquidditism is true, certain macroexternal facts – those that involve the instantiation of the macrophysical roles that a completed science will associate with the physical correlate of consciousness, whatever that might be – stand in need of dedicated H-grounds. And macrophenomenal facts are naturally placed to take on that role. Panquidditism, then, secures a metaphysical ‘niche’ for macrophenomenal facts to occupy – and it does so without positing any systematic dependence of such facts on the microinternal ones. But is panquidditism true – or, at least, as plausible as RM?

It is interesting to observe that, insofar as there is an intuition that facts should be explained ‘from the inside’ as well as ‘from below’ – an intuition that, as we saw above, Russellian monists are likely to sympathize with, and that lies at the root of the distinction between V- and H-grounds – this intuition applies, equally, at the micro- and at the macrolevel. The claim that every external fact requires some other fact H-grounding it, then, should not come across as particularly controversial – at least, not in the present context.²⁷ The question, at most, is why every external fact should require a *dedicated* H-ground.

Consider again our toy macroexternal fact – the fact that Foxy is a gene. The V-grounds of the fact that Foxy is a gene fact are, themselves, external facts, so (given the heterogeneity of H-grounding) they cannot act as its H-grounds. But couldn’t Foxy ‘inherit’ its H-grounds from its submolecular constituents, as in the following diagram (Figure 7)?



Here the thick black arrows indicate H-grounding and connect the microinternal facts involving the quiddities of Foxy’s submolecular constituents to both the microexternal facts

²⁷ Does the claim that any macroexternal fact requires both V- and H-grounds imply that its V- and H-grounds are mere *partial* (as opposed to full) grounds, contrary to my stipulation in footnote 3? I do not think so. According to one plausible definition of the notion of partial grounding, a fact *G* is partly grounded by another fact *F* if and only if *G* is fully grounded by the combination of *F* and some other facts (Correia and Schnieder 2012, 21). But a proponent of the distinction between V- and H-grounds may well refuse to countenance any ‘hybrid’ notion of grounding such that, whenever a fact *G* is H-grounded by *F* and V-grounded by *X, Y, Z...*, *G* is fully grounded (in the ‘hybrid’ sense) by the combination of *F* and *X, Y, Z...* On the view I have in mind, once we have fully specified the V-grounds of a fact, we have in hand one type of *complete* explanation of that fact. Specifying the H-grounds of that fact will give us *another type* of complete explanation of it – not some kind of additional ingredient for constructing a ‘hybrid’ and more complete explanation.

involving Foxy's submolecular constituents and the macroexternal fact that Foxy is a gene.

I admit I don't have any conclusive reason to rule out an account of this shape, but I also don't see why we should take it to have more *prima facie* plausibility than panquidditism. I suppose one could try to motivate the idea that Foxy 'inherit' its H-grounds from its submolecular constituents by appeal to a principle along the lines of:

[*Bridge*] If a fact *F* is collectively V-grounded by facts *G, J, K...* and these facts are H-grounded, respectively, by facts *E, I, O...* then *F* is collectively H-grounded by facts *E, I, O...*

However, in the present context, *Bridge* can hardly be taken for granted. Were there no difference between H- and V-grounding, this principle would reduce to a relatively uncontroversial form of transitivity. But we are assuming that the difference between H- and V-grounding exists and is metaphysically substantive. So, *Bridge* cannot be made out to be more plausible than its denial.

In fact, it is not hard to imagine ways in which one may try to put pressure on *Bridge*. One possible line of argument would be that – given the special role it plays in providing 'realizers' for causal roles – H-grounding is subject to a proportionality constraint, and that any principle along the lines of *Bridge* would validate H-grounding claims that violate such a constraint. According to a proportionality constraint, the H-grounds of any fact must match the level specificity of the fact they H-ground – in other words, they must be neither too specific nor too generic, relative to their metaphysical explanandum.²⁸ Facts involving the microquiddities of Foxy's submolecular constituents are extremely specific – so, by the proportionality constraint, they would be disqualified from being the H-grounds of the fact that Foxy is a gene.

Another possible line of argument would be based on the analogy between the 'insides' of external facts involving ordinary material objects and the 'insides' of external facts involving *us*, conscious material beings. Arguably, the analogy invites the intuition that every 'outside' should be assigned a *single* 'inside' grounding it – in the same way as we tend to think that to every conscious material being there should correspond a *single* stream of consciousness. Since the V-grounds of a macroexternal fact typically involve a plurality of objects (in Foxy's case, all of Foxy's submolecular constituents), accepting *Bridge* would force us to assign many 'insides' to a single 'outside', contrary to that intuition.²⁹

Interestingly, these argumentative strategies hold the potential for ruling out – among views countenancing a dualism of H- and V-grounds – *any* alternative to panquidditism, and not just the view exemplified by the diagram of Figure 7. If every 'outside' needs an 'inside' matching its level specificity, and if that 'inside' stands to its 'outside' like a stream of

²⁸ I am using 'proportionality' in roughly Yablo's (1996) sense – but, while Yablo is concerned with causation, my suggestion here concerns exclusively H-grounding.

²⁹ There are some potential connections between this intuition and the intuitions supporting the so-called 'subject-summing' problem for panpsychism. See Coleman (2015) for discussion.

consciousness stands to a conscious material being, it is not easy to see how external facts involving different causal roles or different objects could possibly share the same H-grounds. Any difference in causal roles will risk offending against proportionality considerations, and any difference in the object involved will risk offending against intuitions concerning the relationship between ‘insides’ and ‘outsides’ (in the same way that it offends against our intuitions about consciousness to think that the same stream of consciousness might be, e.g., shared by two distinct conscious material beings). If the argumentative strategies sketched above are on the right track, then, it seems plausible to think that every external fact will need a dedicated H-ground – and that is exactly what panquidditism says.

An in-depth examination of the two arguments and their presuppositions will have to wait for another occasion. For present purposes, I am happy to proceed on the modest assumption that panquidditism is neither incoherent nor entirely implausible, and that, should it form the basis of an attractive account of the place of consciousness in the physical world, this would itself be a nonnegligible reason to take it very seriously. The task for the next section is to finally outline such an account.

4. Panquidditist monism

Let us take stock. In the last section, I explained how distinguishing the V- and the H-grounds of a fact could help us address a certain kind of overdetermination worry. Then I introduced a view that, by requiring every external fact to have some dedicated H-ground, is designed to carve out a metaphysical ‘niche’ for phenomenal facts to occupy. We now have all the ingredients we need to state panquidditist monism. The view combines panquidditism with the claim that at least some H-grounds are phenomenal facts:

[Panquidditist monism] Every external fact has some dedicated H-ground, and some H-grounds are phenomenal facts.

If panquidditism can be associated with the slogan that ‘every outside has its own inside’, panquidditist monism (PM) is the view that, of the various ‘insides’ needed to provide a complete description of the physical world, some are phenomenal experiences.

The view can be captured by a diagram of the following kind (Figure 8):



Here the thick black arrows going from the microinternal to the microexternal and from the

macrophenomenal to the macroexternal facts represent links of H-grounding, while the absence of any arrows between the microinternal and the macrophenomenal facts reflects the fact that panquidditist monists, unlike Russellian monists, are not committed to any kind of systematic dependence of the macrophenomenal on the microinternal.³⁰

It is important to interpret the various commitments of this view in the right way. Note that panquidditism does *not* imply that all sorts of extravagant and gerrymandered facts have other facts H-grounding them. According to panquidditism, every outside has its own inside. But by ‘outsides’, in this context, we mean the external facts and, by definition, these comprise all and only the micro- and the macroexternal facts (i.e., facts concerning the instantiation of one of the causal roles characterized by a completed version of physics or any other natural science). For all panquidditism says, then, the fact that the Eiffel Tower is the tallest building in Paris does not have a dedicated H-ground (because being the tallest building in Paris is not one of the causal roles characterized by a completed version of physics or any other natural science). Similarly, there need not be a dedicated H-ground for the disjunctive fact that either Foxy is a molecule or Foxy is a gene (because this is not a fact consisting in the instantiation of a micro- or macrophysical role). By contrast, if panquidditism is true, the fact that my brain is now in such-and-such functional state is a fact that may require some dedicated H-ground (provided that being in such-and-such functional state is one of the causal roles that will be recognized by a completed neuroscience).³¹

Notice also that, even if panquidditist monists may want to deny existence of any V-grounding link between the microinternal and the macrophenomenal facts, this does not mean that they have to reject all possible V-grounding links holding among internal facts. Given certain natural assumptions about the determinable-determinate relation, it seems plausible to think that any phenomenal fact involving the determinable of a certain phenomenal property will be V-grounded in phenomenal facts involving a determinate of that property. For example, the fact that I am in pain is plausibly V-grounded in the fact that I have a headache – assuming that having a headache is just a determinate way of being in pain. There is no reason why panquidditist monists should take issue with this. The claim they need to distance themselves from if they want to steer clear of the combination problem is that the macrophenomenal facts are V-grounded in, or otherwise dependent on, the microinternal ones. This is perfectly compatible with thinking that some macrophenomenal facts V-ground

³⁰ In fact, I think that panquidditist monists would be well-advised to *deny* any systematic dependence of the macrophenomenal facts on the microinternal ones. Given the failure of the a priori entailment test, the dependence in question would have to be conceived of as causal in nature (as in emergent RM). But panquidditist monists have little to gain and much to lose by combining their view with the claim that the macrophenomenal facts causally depend on the microinternal ones. On the resulting combination, the H-grounds of certain microexternal facts would also be causes of the H-grounds of some corresponding macroexternal facts (namely, those that are V-grounded by the microexternal facts in question). And this mysterious ‘harmony’ of grounds and causes is exactly the kind of unexplained coincidence that PM was originally meant to avoid.

³¹ In this sense, panquidditism takes the causal roles characterized by a complete and final version of any natural science to ‘carve nature at the joints’. This can be seen as the generalization of a metaphysical stance towards science that, in the context of RM, was restricted to physics alone.

other macrophenomenal facts (or that some microinternal facts V-ground other microinternal facts).

Finally, note that, precisely because PM has no truck with the idea that the phenomenal facts depend on the microinternal ones, advocates of this view are under no pressure to think that every external fact has, as its H-grounds, facts that are either themselves phenomenal or somehow explanatorily relevant to the phenomenal facts. For this reason, PM implies neither panpsychism (the view that some or all of the fundamental constituents of reality are phenomenally conscious) nor panprotopsyism (the view that some or all of the fundamental constituents of reality instantiates properties that are, in some sense, ‘precursors’ of phenomenal consciousness).

Reflection on this point may raise doubts about the credentials of PM as a genuine form of monism. Should we classify this view as ‘monist’ even if it is not committed to the idea that all ‘insides’ are of the same sort (i.e., experiential or proto-experiential in nature)? The question is at least partly terminological, but I think there is good reason to answer it in the positive. Plausibly, whether a view qualifies as ‘monist’ or not does not depend on how many varieties of roles and quiddities it posits. Emergent RM is supposed to be a monist view even if it does not rule out the possibility that the microquiddities might be extremely unlike any of the phenomenal properties we are introspectively acquainted with. And physicalism is certainly a monist view, independently of how many kinds of physical roles a complete and final science will commit us to, or of how diverse such roles will turn out to be. I submit that a more sensible way of assessing the monist credentials of a view is to ask whether, according to that view, all the properties needed to describe reality are integrated into a single metaphysical (i.e., ground-theoretic) network. PM is designed to achieve exactly this kind of monist integration. And, unlike dualism, both physicalism and various versions of RM try to achieve it, too – though, for reasons I discussed in § 1 and 2, one may reasonably question their prospects of success.³²

At any rate, I take it that the most important question isn’t the partly terminological one whether PM deserves to be described as a ‘monist’ position but, rather, whether this position can actually deliver the advantages promised by other forms of monism – most notably, the Russellian one. In § 1, I said that Russellian monists pride themselves on their ability to accommodate our dualist intuitions without turning phenomenal facts into causally idle danglers. But, as we have seen in § 2, it is not clear that RM can address the combination problem satisfactorily. How does PM fare, in the same respects?

Take, first, conceivability arguments against physicalism. Because it resembles RM in its recognition of a dualism of roles and quiddities, PM can treat the intuitions supporting those arguments in the same way. When we imagine an inverted world – a world that is microphysically like our own but where different phenomenal facts obtain than in actuality – we are imagining a world where the same ‘outsides’ have different ‘insides’. Panquidditist

³² I am open to the possibility that this way of characterizing monism may have revisionary implications – but, arguably, the same risk arises for any principled way of characterizing this and other philosophical views.

monists may well regard this as a genuine metaphysical possibility (at least, they may do so if they accept the idea that the same role can in principle be ‘realized’ or ‘occupied’ by different quiddities in different possible worlds). When we imagine a zombie world – a world that are microphysically like our own but without any phenomenal facts – we are imagining a world where the same roles are ‘realized’ or ‘occupied’ by non-phenomenal quiddities. Again, Panquidditist monist may well regard this as a genuine metaphysical possibility (at least, they may do so insofar as they think that only certain quiddities are phenomenal in nature).

Next, take causal arguments against dualism. Because they assume that the H-grounds of certain macroexternal facts are macrophenomenal facts, panquidditist monists can claim to be untouched by these arguments. Whenever a macroexternal fact (say, the fact that your brain is in such-and-such functional state) is causally relevant to other facts in the physical world (say, the fact that you are moving your arm), the macrophenomenal fact H-grounding it (say, the fact that you are in pain) will be said to participate in its causal relevance, based on the general principle of *Sharing*. As we’ve seen in § 2, this kind of *Sharing*-based narrative is central to the tenability of RM. So, here, too, PM fares at least as well as its Russellian counterpart – except that, unlike it, it does not face the combination problem.

PM may not be the best of both worlds, and its commitment to a vastly expanded roster of irreducible quiddities may raise some eyebrows, but it is certainly a view worth of serious consideration for anyone who, despite being unconvinced by physicalism and dualism, recognizes an element of truth in both. Physicalists are right that phenomenal facts need to be integrated into the big ‘grounding network’ that keeps the natural world together. But dualists are right that this integration cannot be achieved by treating the phenomenal as just more of the usual macro-level stuff. The fundamental insight behind PM is that, if we are to keep these seemingly incompatible pressures together, we need, not a dualism of properties, but a dualism of grounds.

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