

Russellian Monism

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Introduction

Russellian monism is a new, or rather a rediscovered, approach to the problem of consciousness, which offers a middle way between the more conventional options of physicalism and dualism. It is inspired by some claims made by Bertrand Russell in *The Analysis of Matter* in 1927, on the basis of which he defended a novel approach to the mind-body problem. This approach was mostly forgotten about in the latter half of the twentieth century but has recently been rediscovered in mainstream philosophy of mind, causing considerable interest and excitement.¹

¹ See Alter and Nagasawa 2015 for a collection of essays on Russellian monism. Goff 2017 brings together and critically evaluates much of the recent literature on this topic. Half of Pereboom 2011 is a defence of Russellian monism. Although the view has recently sprung into the mainstream, there were sporadic defences of something like Russellian monism throughout the latter half of the twentieth century, for example, Feigl 1967, Maxwell 1979, Lockwood 1989, Strawson 1994 and Griffen 1998.

The view has a negative and a positive aspect. The negative aspect starts from the idea that physical science tells us a lot less than we tend to assume about the nature of the physical world. In the public mind, physical science is on its way to giving us a complete account of the nature of space, time and matter. However, it turns out upon reflection – at least according to Russellian monism – that physical science is confined to telling us about the *behavioural dispositions* of physical entities. Think, for example, about what physics tells us about an electron. Physics tells us that an electron has mass and negative charge, among other properties. How does physics characterize these properties? Mass is characterized in terms of gravitational attraction and resistance to acceleration. Charge is characterized in terms of attraction and repulsion. All of these characterisations concern how the electron is disposed to behave, and the same is true with respect to the ways in which physics characterises other physical properties. Physics is silent on the features of matter that underlie its behavioural dispositions, generally referred to as the ‘categorical properties’ of matter.²

² Dispositional essentialists (Bird 2007; Ellis 2001, 2002; Molnar 2003; Mumford 2004) hold that all fundamental properties are dispositions, and so deny that there are any categorical properties. Opponents of dispositional essentialism (Russell 1927; Campbell 1976; Robinson 1982; Heil 2003; Lowe 2006; Goff 2017: ch. 6) have tried to argue that the view essentially involves either a vicious regress or a vicious circularity. Even if there are possible worlds in which dispositional essentialism is true, the knowledge and conceivability arguments (discussed below), if sound, demonstrate that dispositional properties cannot ground consciousness properties,

The positive claim of Russellian monism is that it is these ‘hidden’ categorical properties of matter that explain consciousness. We can see the advantage of this thesis by reflecting on the problems that beset physicalism on the one hand and dualism on the other:

- *The Problem with Physicalism* – Nothing we have learnt from neuroscience seems to explain why brains are conscious; indeed, everything we know from neuroscience about the brain seems entirely consistent with the complete absence of consciousness. Moreover, there are powerful philosophical arguments – the knowledge argument and the conceivability argument – which seem to demonstrate that the properties of physical science alone could never explain consciousness (Jackson 1982, 1986, Chalmers 2009, Goff 2015b, 2017). If these arguments are sound, then physicalism – understood as the thesis that physical science can in principle give a complete account of reality – is inconsistent with consciousness realism.³

and hence that dispositional essentialism is false at any possible world containing consciousness. Some have argued that dispositional and categorical properties are identical (Martin 2007, Martin and Heil 1998, Heil 2003, Strawson 2008). Taking this view into account, we can characterise the Russellian monist as holding that physical science tells us nothing about the nature of categorical properties *qua categorical*.

³ We are here understanding the word ‘physicalism’ in a narrow sense such that it contrasts with Russellian monism; however, ‘physicalism’ (or ‘materialism’) is

- *The Problem with Dualism* – Many philosophers believe that there is strong empirical support for the thesis that the physical world is causally closed, in the sense that every physical event has a sufficient and immediate physical cause. If this is true, it's hard to see how non-physical consciousness could play any role in the production of behaviour. If everything Sarah does has a sufficient physical cause, then there doesn't seem to be anything left for Sarah's non-physical consciousness to do. A commitment to the non-physicality of consciousness seems to render it causally impotent, a thesis which some are happy to accept but most take to be beyond the pale.⁴

The Russellian monist elegantly avoids both of these difficulties, or so she claims. She agrees with the dualist that the dispositional properties of physical science cannot on their own explain consciousness, and thus she is not threatened by the knowledge and conceivability arguments. But she also agrees with the physicalist that consciousness is part of the causally closed physical world, in virtue of being

sometimes defined in a very broad sense such that it is consistent with Russellian monism. Galen Strawson (2003, 2006), for example, defends a form of panpsychist Russellian monism that he refers to as 'real materialism'. In this essay, we are roughly thinking of 'physicalism' as the view that physical science can in principle give a complete account of the fundamental nature of reality. For a more nuanced definition of physicalism and how it differs from Russellian monism, see Goff 2015a, 2017: ch 2.

⁴ See Lowe 2009, Gibb 2015 for attempts to defend dualism against this problem.

constituted by the categorical properties of matter.⁵ Even critics of Russellian monism have remarked on the beauty of its solution to the problem of consciousness: physicalist Alyssa Ney declares that it is ‘at least as bold and exciting as Newton’s proposed identification of terrestrial and cosmic reality.’ (Ney 2015: 349)⁶

Russellian monism is a quite general approach, which comes in a variety of forms depending on what is said about the categorical properties of basic physical entities.⁷ We can usefully distinguish between *panpsychist* and *panprotopsychist* forms. Panpsychist Russellian monists hold that the categorical properties of basic

⁵ More specifically, the proposal is that by grounding physical dispositional properties, special categorical properties directly relevant to the grounding of consciousness, and thus macro-level consciousness itself, get intimately involved in physical causation. Howell (2015) argues that these supposed advantages of Russellian monism with respect to mental causation are illusory. See Alter and Coleman forthcoming for a response.

⁶ It ought to be said that Ney precedes this declaration with ‘...suspending disbelief about the...theses that lead up to it...’

⁷ We will shortly be considering forms of emergentism, according to which there are fundamental properties at the macro-level, and in this context we need to distinguish the subset of fundamental properties that are *basic*. We can say that a property P is *basic* iff (A) P is fundamental, and (B) P is instantiated by a fundamental individual that is not causally dependent for its existence on an individual(s) at some other mereological level.

physical entities are experiential properties. Panprotosychist Russellian monists hold that the categorical properties of basic physical entities are *proto-experiential*, where proto-experiential properties are not themselves experiential properties but are crucial ingredients in facts that explain the production of consciousness.⁸ In the first half of this chapter Philip Goff will discuss panpsychist forms of Russellian monism, and in the second half Sam Coleman will discuss panprotosychist forms.⁹

Part I (by Philip Goff): Panpsychist Russellian monism

1. The Basic Idea

Panpsychism is the view that consciousness is a fundamental and ubiquitous feature of reality. For much of the twentieth century, analytic philosophers treated this view with contempt, in so far as they thought about it at all. However, panpsychism has

⁸ See Coleman's part of this paper for further detail on the definition of proto-experiential properties. The distinction between 'panpsychism' and 'panprotopsychism' comes from Chalmers 2015.

⁹ Though neither panpsychism nor panprotopsychism entail Russellian monism, we focus on Russellian monist versions of these positions in what follows, and will use the terms 'panpsychism' and 'panprotopsychism' accordingly. For more on the relation between panprotopsychism and Russellian monism see the Neutral Monism section of Sam Coleman's part.

recently become a respected minority position, largely because Russellian monism can be interpreted in panpsychist terms. On the standard form of Russellian panpsychism defended in contemporary philosophy, the fundamental constituents of the physical world – perhaps electrons and quarks – have unimaginably simple experience, whilst the complex experience of the human or animal brain is constituted of, or otherwise dependent on, the simple experience of its parts.¹⁰

When one first hears about the view that quarks are conscious, it is natural to interpret what is being claimed dualistically. That is to say, one imagines that the quark has its physical properties and its experiential properties sitting side by side, as it were. However, this would not be a Russellian form of panpsychism. For the Russellian panpsychist, the physical properties of the quark – such as mass and charge – *are* forms of consciousness. Those very properties that physics characterizes behaviouristically are, in their categorical nature, forms of consciousness.¹¹ In this way, the Russellian panpsychist avoids the dualist's

¹⁰ For recent work on panpsychism see the following Freeman 2006, Skrbina 2009, Blaumauer 2011, Alter & Nagasawa 2015, Brüntrup & Jaskolla 2016, Goff 2017 Seager (Forthcoming), Roelofs forthcoming.

¹¹ Alternately, the Russellian panpsychist may hold that physical property terms refer to dispositional properties, and hence that physical properties are realized by, rather than identical with, forms of consciousness. The disagreement between this view and the view described in the main text is not one of substance but rather regards how terms in physics are defined. I suspect it is indeterminate whether the linguistic use of physical scientists is such that 'mass' refers to a dispositional property or to a

difficulties reconciling the efficaciousness of consciousness with the causal closure of the physical world.

What grounds are there for accepting the panpsychist's proposal? Firstly, it is not obvious that we have an alternative; many philosophers hold that the only categorical properties we have a positive conception of are those we find in our conscious experience. It may be that the theoretical choice for the Russellian monist is between the panpsychist's proposal as to the nature of mass and the thesis that mass is 'we know not what'. If we are looking for a picture of reality that is both complete and intelligible, panpsychism may be the only option.¹²

Furthermore, it is arguable that panpsychism is the most theoretically virtuous theory of matter consistent with both the data of physics and our first-person awareness of the reality of consciousness. This is what I have called 'the simplicity argument' for panpsychism (Goff 2016, 2017). Assuming the falsity of dualism, we

categorical property in terms of the dispositions it realizes. There is, however, a substantive dispute between *pure panpsychists*, who hold that the concrete categorical nature of matter is entirely constituted by consciousness, and *impure panpsychists*, who hold that the categorical nature of matter is partly constituted by experiential properties and partly constituted by non-experiential properties. The advantage of the pure view is that it has the potential to give us a complete account of what matter essentially is.

¹² As Coleman discusses below, panqualityism offers an alternative proposal as to the categorical nature of physical properties.

know that some material entities, i.e. living brains, have a categorical nature that involves consciousness. Neither physics nor introspection give us any clue as to the categorical nature of material entities outside of brains, or indeed of the categorical nature of the components of brains. And therefore, the most simple, elegant, parsimonious hypothesis is that the categorical nature of the stuff outside of brains is continuous with that of brains in also being consciousness-involving. Or to put it another way: We would need a reason for thinking that matter has two kinds of categorical property rather than one. Special relativity is not entailed by the empirical datum that light is measured to be the same in all frames for reference, but it is arguably the most elegant account of that datum. Similarly, panpsychism is not entailed by the datum of consciousness but it is arguably the most elegant account of that datum.

There is, then, a good case for panpsychism even before we get to thinking about the need to account for human and animal consciousness. But, of course, the Russellian panpsychist also aspires to do this. Physicalists believe that consciousness can be explained in terms of processes that do not involve consciousness. There is a general consensus that no account of how this is supposed to work is entirely satisfactory. The Russellian panpsychist proposes an alternative research programme: Instead of attempting to explain consciousness in terms of non-conscious elements, try to account for the consciousness of humans and other animals in terms of more basic forms of consciousness, basic forms of consciousness that are postulated to exist as essential properties of basic material entities. It is still early days in the panpsychist

research project, but the history of failure of physicalist solutions to problem of consciousness makes it rational to explore other options.

Physicalists may object as follows:

The fact that we haven't *yet* managed to give a physical account of consciousness doesn't entail that we will *never* be able to give such an account. Perhaps we are in the situation of scientists puzzling about the existence of complex life before Darwin and Wallace came up with the idea of natural selection. Better to wait for the 'Darwin of consciousness' to point the way to a naturalistic account of consciousness than to turn to supernaturalist pseudo-explanations. (See for example Churchland 2013)

However, to adopt panpsychism is not to *abandon* naturalistic explanation; panpsychism is a naturalistic research programme in its own right. The project is to try to *explain* human consciousness, in terms of more basic forms of consciousness, not just to accept it as a mysterious gift from God. The Russellian panpsychist does not think that consciousness itself can be explained in terms of something more basic. But it is not contrary to the scientific method to add irreducible entities to our ontology; Maxwell for example postulated new fundamental electromagnetic forces (Chalmers 1995 makes this analogy).

Moreover, as we noted in the introduction, there are strong philosophical arguments which purport to show that physical science alone cannot fully explain consciousness. For naturalistically minded philosophers who are persuaded by these arguments, panpsychism may be an attractive middle way between physicalism and

dualism. And in any case, those adopting the panpsychist research programme need not insist on the physicalist research programme being abandoned. It is early days in the scientific study of consciousness, and it would be foolish at this stage to rule out paths which may one day lead to progress.¹³

What kind of consciousness is mass, as opposed to charge or spin? What is it like to be a quark? Panpsychism is a broad theoretical framework, and it will take time to fill in the details. Compare: It took decades of hard work to bridge the gap between the basic principles of Darwinian evolution by natural selection and modern genetics.

2. Problems with panpsychism I – The Incredulous stare

In spite of the arguments above, for many the idea that quarks have experience, no matter how basic, is just too crazy to be taken seriously. The incredulous stare panpsychists sometimes receive may not be an argument but it is a powerful force nonetheless. The deep-rooted intuitive resistance to the view is probably to be explained in terms of cultural associations; in popular culture views which sound superficially similar have been defended with less than rigorous reasoning. But it goes

¹³ Strawson 2006 argues that panpsychism is the only way of avoiding an unpalatable form of radical emergentism. A similar argument is explored in Nagel 1979, although a close reading reveals that Nagel is using the word ‘panpsychism’ to denote the disjunction of panpsychism and panprotopsychism. A revised form of Nagel’s argument is responded to in McLaughlin 2016.

without saying that just because a view has been defended with bad arguments, it does not follow that there are no good arguments for that same view. And when the matter is looked at plainly, panpsychism is no more profligate than many other revisionary proposals that are taken seriously in contemporary metaphysics.

Another likely source of intuitive opposition to panpsychism is the often unquestioned assumption that physics is on its way to giving us a complete account of fundamental reality. When in the mindset of thinking that physics is on its way to giving a complete story of matter, a consciousness-filled universe is extremely improbable, as physics does not attribute consciousness to quarks. But if we accept that physics tell us nothing about the categorical nature of matter, and indeed the only thing we really know about the categorical nature of matter is that some of it is experience-involving, panpsychism starts to look much more probable.

At the end of the day, good arguments and the theoretical advantages of a theory ought to be taken more seriously than common-sense intuition. The fact that we have a common ancestor with apes; the fact that time flows slower when travelling at high speeds; the fact that a particle can exist in a superposition between distinct locations; all of these views are highly counter-intuitive, but this gives us little or no reason to think them false. One might object that, in opposition to panpsychism, these other theories are supported by empirical evidence. But the reality of consciousness is a datum in its own right. We know that consciousness exists, and hence any theory of reality with aspirations to be complete must be able to account for it. If panpsychism is able to account for consciousness in a way that avoids the difficulties

that plague its more conventional rivals, then this will constitute strong support for its truth.

3. Problems with panpsychism II – The combination problem

By common consent the deepest difficulty facing the panpsychist is *the combination problem*. There are in fact multiple forms of the combination problem, but most notorious is the problem of how *little conscious things* combine to make *big conscious things*.¹⁴ Most Russellian panpsychists take the relationship between biological consciousness and consciousness at more basic levels to be one of constitution or grounding: the subject of experience that is me is somehow composed of a large number of micro-level subjects of experience.¹⁵ We seem to be able to make sense of

¹⁴ Chalmers 2016 catalogues multiple forms of the combination problem.

¹⁵ Some panpsychists defend *constitutive cosmopsychism*, the view that all facts are grounded in facts about the conscious universe (Mathews 2011, Jaskolla & Buck 2012, Shani 2015, Nagasawa & Wager 2016, Abahari forthcoming and Goff 2017, forthcoming). Strictly speaking, this view avoids the combination problem, as, on this view, a macro-level conscious subject derives its existence and nature not from the parts that make it up but from the whole of which it is a proper part. However, it faces an equally pernicious ‘de-combination problem’ of explaining how facts about ‘little’ conscious things are grounded in facts about ‘big’ conscious things. The conceivability combination problem discussed below seems to have a perfect analogue that applies against constitutive cosmopsychism: we can conceive of a conscious universe which is

parts of a car engine making up a functioning engine, or bricks and cement constituting a house, but we struggle with the idea of smaller minds combining to constitute a big mind.¹⁶

There are two ways to take the combination problem. One way is to see it as a *challenge* which the panpsychist must address. Alternately one can see it as an *argument* that panpsychism cannot possibly be true. Almost all panpsychists embrace

such that none of its parts is conscious. See Goff 2017: ch 9 and Miller forthcoming for attempts to solve the de-combination problem. Shani 2015 adopts a form of semi-emergentism in response to the de-combination problem.

¹⁶ The term 'combination problem' comes from Seager 1995, but it is generally traced back to the James 1890/1981: 160. See Coleman 2014, Chalmers 2016 and Goff 2006, 2009, 2017 for recent versions of the combination problem. As Chalmers (2016) suggests, how serious the combination problem is may depend on how willing one is to be deflationary about conscious subjects. It is perhaps easier to make sense of conscious *states* combining than it is to make sense of conscious *subjects* combining. If, as bundle theorists believe, a conscious subject is nothing more than a bundle of conscious states, then the combining of certain conscious states may be sufficient for the combining of conscious subjects. Perhaps, then, the combination problem is easier for the bundle theorist. On the other hand, one could take the fact that conscious subject combination is more problematic than conscious state combination to be evidence that subjects are something over and above their states.

the former understanding of the problem, and indeed one of the major focuses of the panpsychist research programme is to try to meet this challenge.

Before my conversion to panpsychism, I tried to press the combination problem as an argument against panpsychism by construing it as a conceivability argument aimed at demonstrating the impossibility of mental combination (Goff 2009, 2017). The starting point for this argument is the following: For any group of conscious subjects it seems that we can conceive of *just those subjects* existing in the absence of some *further* subject.

We can make the case more vivid by imagining a *microexperiential zombie*, which we can define as having the following characteristics:

- Empirically indistinguishable from an actual human being, i.e. it behaves the same, if you cut it open no physical difference from an actual human can be empirically discerned.
- Each of its micro-level parts has conscious experience.
- No macro-level part of the organism has conscious experience.

Such creatures seem to be coherent; from which it would seem to follow that the postulation of conscious subjects at the micro-level sheds no explanatory light on the existence of conscious subjects at the macro-level, undermining the panpsychist's attempt to account for human consciousness.¹⁷ This is an especially worrying problem

¹⁷ The notion of coherence I am working with here is equivalent to Chalmers' (2009) notion of 'negative conceivability': P is negatively conceivable just in case we cannot

for the panpsychist, because (i) a key motivation for panpsychism involves rejecting physicalism on the grounds that it cannot account for consciousness, and (ii) the main way of arguing that physicalism cannot account for consciousness is via a conceivability argument of the form we have just used against panpsychism. We seem to have got nowhere.

It is clear that this is a profound challenge to the hopes of Russellian panpsychism. In the rest of my half of this entry, I will briefly consider three responses.

3.1. Solution 1: Give us time!

Most panpsychists agree that there is as yet no perfectly satisfying solution to the combination problem, whilst rejecting the charge that this undermines the motivation for working towards a panpsychist theory of consciousness. The problem

rule out the truth of P a priori. It follows from the negative conceivability of micro-experiential zombies that there is no a priori entailment from the micro-level consciousness (and micro-physical) facts to the macro-level consciousness facts, and in this sense the micro-level consciousness (and micro-physical) facts shed no explanatory light on the existence of conscious subjects at the macro-level. One might suppose that there is simply a brute necessary connection between the micro-level consciousness (and micro-physical) facts and the macro-level consciousness facts. But, if this is an option, then the postulation of micro-level consciousness starts to look redundant, as we might as well just postulate a brute necessary connection between the microphysical facts and the macro-level consciousness facts.

of consciousness is perhaps the deepest in contemporary science and philosophy, and none of the proposed solutions is without its problems and challenges.

Moreover, there is good reason to think that the combination problem is more tractable than the explanatory gap faced by the physicalist. The concepts involved in articulating the physical facts are very different from the concepts involved in articulating the consciousness facts: the former concepts are third-personal and quantitative, the latter concepts are first-personal and qualitative. This radical difference provides grounds for thinking there could never be a priori derivations from the physical facts to the consciousness facts, and hence that zombies would remain conceivable even for an ideal reasoner. There is no such support for the conceivability of micro-experiential zombies, given that in this case first-person qualitative concepts are employed in the articulation of both the fundamental and the higher-level facts.

This difference can also be brought out by reflecting on the knowledge argument against physicalism. The knowledge argument imagines a genius neuroscientist, Mary, who has been raised in a black and white room and so never seen any colours apart from black and white and shades of grey. Plausibly, no matter how much she learns about the neuroscience of colour experience, Mary will never be able to work out what it's like to see red. To consider the analogous challenge to the Russellian panpsychist, we must imagine Mary knows not only the physical facts but also the facts about the micro-experience that (according to Russellian panpsychism) underlies human experience of red. It is much less clear that Mary would not be able to work out what it's like to see red from this basis. Hume's

‘missing shade of blue’ provides us with a plausible example of how one could derive a certain experiential property P – in this case the missing link in a spectrum ranging from dark to light blue – from knowledge of other experiential properties – the other shades of blue in the spectrum – without actually being acquainted with P. And hence there seems to be no principled ground for denying that Mary would be able to deduce facts about human colour experience from facts about its micro-experiential basis.

No one has yet worked out how to close the gap between micro-level experience and macro-level experience, but there are not the same principled reasons as exist in the case of physicalism for thinking that the gap can never be closed. Moreover, there are already numerous very interesting proposals for making progress: those discussed below, as well as Roelofs 2014, 2016, forthcoming a, forthcoming b, Goff 2017: Ch. 9, and Miller forthcoming.

[3.2.](#) Solution 2: Phenomenal bonding

In general composition involves relationships. Organs cannot form a functioning body, or cogs form a working clock, unless they are related in quite specific ways. It is natural, therefore, to suppose that micro-level subjects must be related in certain quite specific ways in order to constitute a macro-level subject. Perhaps our inability to understand mental combination arises from our ignorance regarding some special relationship essentially involved in mental combination. We can call this special relationship ‘phenomenal bonding’ (Goff 2016, 2017).

A fully worked out version of this solution must surely involve saying something more about the positive nature of the phenomenal bonding relation. Spatial or physical relations seem to be ruled out, on account of the fact that the parts of a micro-experiential zombie instantiate all of the same spatial and physical relationships as in a normal human being without resulting in mental combination. A number of philosophers sympathetic to panpsychism have proposed *co-consciousness* as the phenomenal bonding relation (Dainton 2011, Miller 2018). Co-consciousness is the relation experiences bear to each other when they are *experienced together*. On this form of the phenomenal bonding view, it is when micro-level experiences come to bear the co-consciousness relation to each other that they are bonded together into a unified macro-level experience.

In so far as I have defended the phenomenal bonding response (Goff 2016, 2017), I have argued that we have no positive understanding of the nature of the phenomenal bonding relation and perhaps never will. There is admittedly a worry that adopting such a 'mysterian' account of phenomenal bonding could undermine the motivation for panpsychism. If we are relying on some mysterious bonding relation to explain the grounding of human subjects, what reason is there to suppose that that relation can only work its magic on micro-subjects? It seems equally likely that there is some mysterious relation that bonds together *utterly non-conscious* particles to make a conscious human subject (Coleman 2016). We have no idea how a relation could do such a thing, but, on the panpsychist proposal under consideration, nor do we have any idea how a relation could bond conscious particles to make a human

subject. The postulation of micro-subjects, in addition to a mysterious bonding relation, starts to look redundant.¹⁸

3.3. Solution 3: Emergentist panpsychism

I have so far been assuming a reductionist interpretation of Russellian panpsychism, according to which facts about human and animal consciousness are grounded in or wholly constituted of facts about micro-level consciousness. However, I am increasingly attracted to an emergentist form of Russellian panpsychism, according to which facts about animal consciousness are fundamental facts in their own right, although causally dependent on facts about micro-level consciousness.¹⁹ The

¹⁸ How strong this criticism is may depend on whether we have independent reason to think that physical relations must have a concrete nature underlying the mathematical characterization we get from physics. If we do have reason to think this (as I argue in Goff 2017: 7.3.2.5), then we have to commit to a ‘hidden’ real nature of physical relations in any case, and so the panpsychist does not incur an extra cost by investing in the phenomenal bonding relation. In this case, the simplicity argument discussed above may still lead us to favour a panpsychist interpretation of Russellian monism over a panprotopsychist interpretation (this is essentially the case I make in Goff 2017: Ch. 7).

¹⁹ Rosenberg (2004, 2014) and Brüntrup (2016) defend emergentist panpsychism. Mørch (2014) and Seager (2016) defend a form of emergentism slightly different from the one I have described here, in which micro-subjects ‘fuse’ into a macro-subject, ceasing to exist in the process.

emergentist panpsychist avoids the conceivability-based combination problem altogether. She can accept that micro-experiential zombies are conceivable and even possible: such creatures exist in possible worlds which lack the basic principles of nature in virtue of which macro-level animal consciousness emerges from micro-level consciousness.

Is this view consistent with causal closure? In fact, talk of 'causal closure' often lumps together two quite different principles:

- *Broad Causal Closure* – Every (micro-physical, chemical, neurophysiological) physical event has a sufficient, immediate physical cause.
- *Micro Causal Closure* – Every physical event either (A) has a sufficient, immediate micro-physical cause, or (B) is grounded in an event which has a sufficient, immediate micro-level physical cause.

The former principle is quite consistent with emergentist Russellian panpsychism, as the emergentist Russellian panpsychist can claim that animal conscious states are the categorical nature of certain neurophysiological states. The crucial question is: Which of the above principles do we have reason to accept?

The principle of causal closure is frequently appealed to but rarely defended. In my view, the most plausible defence of it is the 'no-gap' argument, roughly an inductive argument starting from the premise that we do not find gaps in the causal processes studied by neuroscience, contrary to what we would expect if causal closure were false (Papineau 1993: 31-2; McLaughlin 1998: 278-82; Melnyk 2003: 288-90). The reasoning goes like this: If dualism were true, and a non-physical mind were

interacting with the brain on a regular basis, then this would show up in neuroscience. There would be all kinds of happenings in the brain that lacked a physical cause; it would appear as though a poltergeist was playing with the brain.

The no-gap argument is support only for broad causal closure. Suppose certain neurophysiological events are fundamental events in their own right, not grounded in micro-level events. Assuming those fundamental neurophysiological events are causally efficacious, it will follow that micro causal closure is false, as any effect of a fundamental neurophysiological event will have neither a (sufficient and immediate) micro-level cause nor a (sufficient and immediate) cause that is grounded in micro-level facts. But if every physical event in the brain has a physical cause *at some level*, then broad causal closure will be true.

Do we have any evidence that micro causal closure is true? An inductive argument for this would have to start from the premise that we have causally explained many macro-level events in the living brain in terms of micro-level facts, and that in the course of doing this have never found a macro-level brain event that can't be explained in this way. But have we really done this? As far as I know, no empirical defence of micro causal closure in these terms has ever been given.

I am inclined to think, therefore, that emergentist Russellian panpsychism avoids the combination problem whilst remaining perfectly consistent with the data of observation. It is fair to point out, however, that these benefits would also be enjoyed by emergentist forms of *panprotopsychism*, according to which (A) the experiential properties of animals are fundamental properties that are the categorical nature of neurophysiological states, and (B) these experiential properties are causally

dependent on micro-level proto-experiential properties of the brain.²⁰ What then is the motivation for 'going panpsychist'?

I believe the simplicity argument for panpsychism is at its strongest when it comes to comparing panpsychist and panprotopsychist forms of emergentist Russellian monism. The emergentist Russellian monist has to suppose that there is some positive nature to micro-level categorical properties. In my view, the only fundamental categorical properties we have direct access to are the essentially experiential ones instantiated by human brains.²¹ If we suppose that micro-level categorical properties are also experiential, then we can confine ourselves to believing

²⁰ Although as Coleman notes below, there don't seem to be any defenders of such a view. In the context of emergentist Russellian monism, what is it for a micro-level property to be 'proto-experiential'? Following the definition given by Coleman below, we can say that there is an a priori entailment from truths about the proto-experiential properties at the micro-level to the truths about consciousness properties at the macro-level; in other words, there is an intelligible connection between cause and effect.

²¹ The panqualityist position (discussed by Coleman below) denies this, holding that what we have direct access to are properties that are essentially qualitative but contingently experiential. And indeed the argument I am about to give in the main text could be equally put forth by an emergentist panqualityist. I think the challenges the panqualityist faces in bridging the gap between qualities and consciousness, discussed by Coleman below, are insurmountable. But I concede that the simplicity argument in itself gives no support to panpsychism over panqualityism.

in one kind of fundamental categorical property rather than two. There is a clear saving here in terms of quantitative parsimony; and thus, in the absence of any reason to the contrary, emergentist Russellian monists should be panpsychists.

Part II (by Sam Coleman): Panprotopsychism

1. Introduction to Panprotopsychism

Panpsychists are impressed by the metaphysical heft of consciousness. This shows in their belief that human consciousness is best explained by consciousness of a more fundamental sort (whether microscopic or macroscopic), and that theories positing a non-conscious ground, like physicalism, struggle to explain consciousness. Panprotopsychists are less impressed by consciousness's metaphysical heft, since they posit a grounding base for the world, including human-level consciousness, which lacks consciousness. In that respect panprotopsychists are closer to physicalists than to panpsychists, agreeing that, in so far as consciousness is a real phenomenon, its grounding base need not also instantiate consciousness. But panprotopsychists are closer to panpsychists than to physicalists in their belief that the underlying categorical aspect of the physical world—that element physics does not tell us about, leaving a gap the panpsychist fills with conscious experience—is key to explaining the existence of human-level consciousness. Instead of positing forms of consciousness as providing the categorical nature of fundamental physical entities, the panprotopsychist posits protoconscious (aka protopsychic, protoexperiential, or

‘protophenomenal’) properties to play this role. There is much to say on the topic of the character of such properties, but for now we can define them as properties that are (i) not identical to or grounded in the dispositional (or otherwise relational) properties revealed by physical science, (ii) not themselves forms of consciousness, but such that (iii) in appropriate combinations they constitute consciousness properties. Moreover, (iv) truths about the protoconscious properties a priori entail the truths about human consciousness.²²

Next, we can define reductive panprotopsyism as follows:

Reductive panprotopsyism: Facts about human and animal consciousness are not fundamental, but are grounded in/realized by/constituted of facts about more fundamental kinds of protoconscious properties, e.g. facts about the protoconsciousness of micro-level entities.²³

²² Cf. Chalmers (2015: 259). By contrast, the physicalist either does not believe the world’s categorical properties figure in an account of consciousness, or that if they do figure the transition from their nature to the nature of human-level consciousness is strictly a posteriori. See Goff (2015a, 2017: 144) for more on how to distinguish physicalism from panprotopsyism. A physicalist is also unlikely to embrace some of the panprotopsyist’s positive suggestions for the categorical natures; e.g. unexperienced qualities, as on panqualityism (see §3).

²³ The human-level facts about consciousness may also be partly grounded in the more conventional facts about physical microstructure, the sorts of facts physics discovers, so that someone deriving the presence of human-level consciousness

The way we have defined protoconscious properties more or less commits anyone who posits them to reductive panprotopsychism. Nonetheless an emergentist variety of panprotopsychism appears possible, holding that human-level consciousness is a distinct existent produced and sustained by the right arrangement of fundamental protoconscious properties. Clearly, on emergentist panprotopsychism clause iii of the definition of protoconscious properties would need revision, as human-level consciousness would be something over and above the right arrangement of protoconscious properties.²⁴ However, I know of no adherents to emergentist panprotopsychism, current or historical. I will therefore equate panprotopsychism with the reductionist variety, and retain the above definition of protoconscious properties.²⁵

would need to know both sorts of fundamental fact. However, the panprotopsychist will likely hold that the microstructural facts are ultimately grounded in the protoconscious facts—among other reasons because dispositions are grounded in their categorical bases. In that case no qualification to this statement of reductive panprotopsychism is needed regarding the microstructural properties, and the deriver would only need to know the protoconscious natures to derive human-level consciousness.

²⁴ Perhaps also clause iv, depending on one's view regarding the compatibility of emergentism and a priori entailment.

²⁵ Stubenberg (2016) argues that emergentism is incompatible with a major form of panprotopsychism known as 'neutral monism'. Neutral monism asserts that the mental and the physical are not ultimate ontological categories (being reducible to

As well as reductionists about consciousness, panprotopsychists have almost always been ‘smallists’—holding that the facts about the world are determined by the facts about its lowest micro-level. Though there are questions about his status as a Russellian monist,²⁶ Russell (as the name suggests) inspired the current upsurge in Russellian monism, and panprotopsychist views in particular. In many ways Russell is the arch-panprotopsychist, and he certainly viewed the universe as a bucket of shot rather than a bucket of jelly. A priority monist version of panprotopsychism also appears possible,²⁷ but I will concentrate on the overwhelmingly typical variety: reductive smallest panprotopsychism. In what follows I will refer to this conjunctive position simply as ‘panprotopsychism’.

There is no commitment in panprotopsychism that consciousness first arises at the human, or animal, level. Someone who holds that while quarks and leptons have non-conscious categorical properties, these constitute, in their characteristic arrangements, consciousness properties pertaining to atoms is a panprotopsychist not a panpsychist—since no fundamental entities would be conscious on this view. But because human-level consciousness is our explanandum, I will talk as if this is the level _____ relations among the fundamental neutral elements), whereas emergentism asserts at least the fundamentality of the mental.

²⁶ See e.g. Wishon (2015) and Stubenberg (2016) for some discussion of Russell’s relation to Russellian monism.

²⁷ See Goff (2017) for priority monism in relation to a panpsychist form of Russellian monism. Coleman (2015a) can be read as a priority monist panprotopsychist. Chalmers dubs this view ‘cosmoprotopsychism’ (personal communication).

where panprotopsychists first expect consciousness, and that happens to accord with all the panprotopsychist positions I know of.

Panprotopsychists agree with panpsychists that an austere physical universe could not support consciousness—something extra needs adding to the physical raw ingredients.²⁸ But panprotopsychists agree with physicalists that an explanation of human consciousness does not require consciousness to be fundamental; what needs adding is therefore something less than consciousness. In thus seeing the universe, especially in its fundamental or categorical nature, as somewhat richer than the physicalist believes it to be, while somewhat less rich than the panpsychist believes it to be, the panprotopsychist's position is rightly seen as intermediate between the two. Proponents are liable to think that, as with many middle roads, it enjoys the benefits of the roads to either side without some of their perils. But of course like any distinctive path in philosophy it faces perils of its own, as we will see in §6.

2. Awareness vs. Qualities

One further general distinction is useful before getting into the details of specific panprotopsychist positions: the analysis of consciousness into two aspects, awareness and qualities (or content). The aspects can be isolated by saying that the first is what all experiences have in common, while the second is that aspect which allows for

²⁸ See the Introduction.

comparisons of resemblance and difference between experiences. All experiences, had by experiencers of however exotic a type, involve the *awareness by a subject* of a *content* or a set of *qualities*. In other words, the qualities or content of an experience have the property of being ‘for’ the subject of the experience. But clearly, the content of experience, the set of qualities experienced on a given occasion—what gives each experience its distinctive character—varies between subjects and also changes for the same subject over time.

The term ‘what-it-is-like-ness’ (and relatives) has conventionally been used by philosophers to capture the *whole* of consciousness, awareness as well as content, but it seems more appropriate to restrict its use to the quality/content aspect. After all, the quality of an experience is precisely that which the subject adverts to when asked what her experience is like (e.g. ‘bitter’, ‘painful’). With this terminological restriction in place, applying ‘what-it-is-like-ness’ to the qualitative or content aspect of experience, the first aspect, awareness, can usefully be labelled ‘that-it-is-for-ness’: Ascribing awareness denotes the fact that a content or quality is (in the relevant sense) *for* a subject at all, that there is a specific subjectival awareness of this particular content or quality. In the philosophy of consciousness it is controversial whether these two aspects of consciousness can come apart in reality, as they plausibly can in thought.²⁹ If they can really come apart then there could be

²⁹ See e.g. Kriegel (2009, ch.1), Rosenthal (1991). Many philosophers deny unconscious qualitative character is even conceivable.

unconscious what-it-is-like-ness. This is an issue panprotopsychists disagree over.³⁰ Still, the distinction will be useful below in explaining the panprotopsychist variants.

3. The Character of the Categorical Properties

Since it eschews what might be thought of as the more obvious answers to the question of what the world's fundamental nature is like, in the form of a conventionally physical nature (for physicalists) or a conscious nature (for panpsychists), there is an onus on panprotopsychists to offer some characterisation of the protoconscious properties they posit as the key to the production of consciousness in a physical world. It is just not obvious what kind of properties these are. Taking consideration of the literature, there seem to be three options open (though the possibility of further options should not be ruled out given the early state

³⁰ Prominent neutral monists, like Russell (1927, 1959) and Mach (1886), are clear that the contents of experience, sensory and perceptual appearances, can and do exist entirely apart from subjects, hence outside of awareness. James (1912) seems more cautious on this issue. In general, a panprotopsychist is free to hold that the protopsychic natures must exclusively produce contentful, i.e. qualitative, *states of awareness*, on the ground that the two aspects are inseparable. Such a theorist will not be a panqualityist (see §3). This point links to the distinction below (§4), concerning how panprotopsychists view the generation of the awareness aspect of consciousness.

of the field of panprotopsychist research). Panprotopsychists may say that the fundamental protoconscious properties are:

1. Contingently unknown for creatures like us.
2. Necessarily unknown for creatures like us.
3. Of a non-conscious qualitative nature.³¹

³¹ It should be noted that there is controversy over whether all the positions featuring in camps one and two count as non-physicalist, more specifically over whether the categorical properties they posit are necessarily non-physical properties. Some panprotopsychists, and we will see examples shortly, posit categorical properties with a physical look about them, and even more panprotopsychists at least take themselves to be offering a physicalist position (e.g. Montero (2015)); certain proponents of camp three positions are also known to claim this, e.g. Coleman (2015)). Here I follow Goff in defining physicalism as denying that there is an a priori story to be told connecting the world's fundamental categorical properties, if such there be, with human-level consciousness. Since all panprotopsychists claim there is such a story, at least in principle, indeed this is one of their reasons for positing panprotopsychic categorical properties, they are anti-physicalists by Goff's lights. Panprotopsychists are at least physicalists of an unusual sort, likely to be seen as outside the more mainstream herd. And it is useful to collect together the theorists who say non-conscious categorical properties matter deeply and transparently to consciousness under a single term: the policy of labeling all panprotopsychists anti-physicalists prevents (at least a portion of)

Panprotopsychists in camp one accept that the class of protoconscious properties may be presently unknown to us, but they are somewhat optimistic that we may have, or find, ways to infer, or even somehow to observe, their character. A line of thought that plausibly derives from Kant encourages agnosticism about the nature of fundamental categorical properties: Since our epistemic commerce with the outside world is causation-based—we know of external things, ultimately, as they impact causally on our senses—the precise nature of the categorical properties is bound to be elusive. As noted above, that is because what we know of are the *effects* of these properties, hence also their dispositions; but this does not tell us about the intrinsic character of the natures that ground these dispositions (Langton 2004). But camp one panprotopsychists believe we may nonetheless devise methods, through special use of the imagination, say, to make informed speculations about the categorical characters. And perhaps in the future science or philosophy will develop novel techniques by means of which these speculations could be tested or informatively assessed for theoretical power. Maybe such techniques will eventually enable us to pin down a strong candidate for the protoconscious categorical properties.³²

an interesting cluster of theories from being lost blurrily in the larger and cruder classification of ‘physicalism’. For more detail on this distinction and its utility see Goff (2015a, 2017).

³² Pereboom (2011) makes this suggestion. He considers whether an absolute form of Lockean *solidity* could play the required role, but concludes it could not. Pereboom

Members of camp two see no way to surmount the aforementioned Kantian predicament regarding our knowledge, or else have their own reasons for pessimism based on the human psychological/conceptual endowment, and conclude that we are forever closed off from knowing what the fundamental categorical properties are like.³³ This thesis obviously prevents them from endorsing panpsychism, since panpsychists believe we do know which determinable the categorical properties correspond to as a class—kinds of consciousness. Camp two theorists may still allow that some conceivable knower could have access to the natures in question.³⁴

considers the position he develops ‘Russellian physicalism’: Russellian because it acknowledges Russell’s insight that the intrinsic nature of the physical is up for grabs, and is likely to be relevant to solving the mind/body problem: see Russell (1927). Stoljar (2001) seems to think the relevant natures are conceptualisable, at least for some conceivable being, but I am not clear whether he is optimistic about our abilities; he is plausibly interpreted as agnostic between camps one and two, as is Montero (2015).

³³ McGinn (1989) argues that our various conceptual schemes make it impossible to grasp the deep nature that unifies matter and mind, and his position is plausibly panprotopsychist. McClelland (2013) is also in camp two, though he holds that the awareness aspect of consciousness is reducible (see §4).

³⁴ God’s epistemic access to these natures might be via constitution, not causation. Coleman (forthcoming a) suggests we bear a similar ‘acquaintance’ relation to the categorical properties of which we are conscious.

Camps one and two characterise protoconscious properties by their relation to our knowledge. There is something frustrating about such descriptions, since they do not really say anything informative about the protoconscious natures themselves. Camp three members, like panpsychists, make a distinctive positive suggestion about the protoconscious categorical natures. These are *panqualityists*:³⁵ they believe that qualities, of the broad sort we know from conscious experience (e.g. blue, red), provide the fundamental intrinsic character of the material world. But they are not panpsychists: they do not think that *conscious* qualities provide the categorical characters, where a conscious quality is a quality some subject is experiencing. Conscious qualities have the projector-light of awareness shining through them, as it were. The panqualityist, taking the separation of awareness and qualities as aspects of experience with full metaphysical force, posits unexperienced or unconscious qualities as the fundamental categorical properties. Pursuing the cinematic metaphor, these qualities are more akin to colourful celluloid reels not currently being projected (cf. Stubenberg 1998). Though the light of awareness is not upon them, they fully possess the qualitative characters that manifest in awareness.³⁶ Like the panpsychist, the panqualityist may want to say the determinates of the fundamental qualities are

³⁵ Chalmers (2016) has reintroduced this term, which he finds in Feigl (1971), who credits in turn S. C. Pepper.

³⁶ Thus the panqualityist, uniquely among panprotopsychists, plausibly evades the ‘simplicity argument’ for panpsychism—see Pt. I.

unfamiliar to us.³⁷ Nonetheless, they share with the qualities we know from experience the broad recognisable determinable of *qualitative character* (what-it-is-like-ness)—which is to say that they are at least potential contents of experience for some conceivable (perhaps very small!) subject, and would help to constitute what experience is like for such a being.³⁸

³⁷ See e.g. Rosenberg (2004). Feigl (1971: 308), toying with panqualityism, rules that the fundamental qualities are ‘incomparably more ‘colorless’ than the qualities of human experience.’ But see Coleman (2016) for reasons why this may be unhelpful to panqualityism when it comes to treating qualitative aspects of the combination problem, as highlighted by Chalmers (2016).

³⁸ Coleman (2014, 2015a, 2016) is a contemporary proponent of panqualityism. Feigl (1971) entertains the position. Sellars (1981) comes close, but prefers qualities to emerge as primitive properties in the context of a brain. He could be considered an emergentist panqualityist, perhaps. Mach (1886) seems to be a panqualityist: his ‘elements’ can feature as experiential contents, items like blueness and smells, but can equally exist outside of experience. The same is true of the James of radical empiricism (1912). Russell, at least in his neutral monist phase (e.g. 1927), seems well described as a panqualityist: he suggests that physical events outside the brain may well be intrinsically of the same character as those brain events we experience, i.e. qualitative. And he, like Coleman, is concerned to fill in the microphysical natures using such qualitative properties. Nagel (1979) is usually read as tentatively endorsing (or not ruling out) panpsychism, but some of his remarks suggest panprotopsychism. Retaining his commitment to the irreducibility of experienced qualities, that could

4. Awareness

Panprotopsychists, unlike panpsychists, incur a burden to explain how conscious awareness first enters the world. This is a burden panprotopsychists expressly take on by tying their position to a transparent explanation of human-level consciousness, in both its aspects.³⁹ Two answers seem available to panprotopsychists on the question of how awareness is generated from a fundamental protoconscious level that lacks it.

Either:

A). Awareness is a purely structural property, a matter only of the right system of relations between complexes of protoconscious categorical properties and/or their bearers.

B). Awareness is not a purely structural property: the intrinsic character of the protoconscious categorical properties is directly implicated in the production of awareness.

make him a panqualityist. Plato of *Timaeus* ascribes qualities to his geometrical atoms in an attempt to explain macroscopic secondary qualities—he thus has something of a panqualityist streak, at least.

³⁹ In this respect their position resembles that of ‘a priori’ physicalists, see e.g. Jackson (2006), Kirk (2005). No other theorists in the field promise an explanatory reduction of awareness.

Group B panprotopsychists view the fundamental categorical properties as *latently conscious*; somehow, when they are assembled in the right way as a group, their merely protoconscious inner natures combine and begin to ‘glow’—referring to some kind of intrinsic modification—with the light of conscious awareness. These panprotopsychists take human-level consciousness much as panpsychists, non-eliminativist physicalists, and dualists do, i.e. in a non-deflationary way, and think of it as resting somehow dormant within the categorical protophenomenal properties themselves.⁴⁰ The protoconscious properties are ‘consciousness seeds’.

⁴⁰ There is an emergentist whiff about this account not present for group A relationalists about awareness. But perhaps there could be such a fundamental disposition for awareness, manifested only in group dynamics, that would still provide a reductive and a priori account of awareness. Meehl (1966) reports a thought experiment from Feyerabend of a universe consisting of two electrons at such a distance that their gravitational attraction is exactly counterbalanced by their electric repulsion. Not moving, their electromagnetic capacity is only latent—there is no electromagnetic field. But if they start to move for some reason (disturbed by fluctuations in the quantum field, or by God’s finger), an electromagnetic field will result. It seems that something like this model—it is the altered relations between the electrons that elicit the exercise of a certain power—must be what Group B panprotopsychists have in mind. A close relation is the position Strawson (1994: 76) calls ‘asymmetric panpsychism’ where any *arrangement*, however small, of basic

Group A panprotopsychists are more deflationary about awareness, viewing it not as an intrinsic property of experienced qualities at all, nothing like a phenomenal ‘glow’, but merely as a matter of what relations a qualitative property enters into (see Mach 1886, Russell 1927, James 1912, Coleman 2012, 2014, 2015a, 2016, McClelland 2013, Hume 1739/1975: 207-8, Lockwood 1989, and Stubenberg 1998). Specifically, the consciousness-supporting relation involves being in the right position with respect to a *mind*, so as to become a content for it in the requisite way.⁴¹ For example the right relation to a mind might be playing a certain causal or functional role within it.⁴² For group A panprotopsychists, unlike group B panprotopsychists, nothing *happens to* qualities when they are arranged in the right manner to be experienced; they are not modified in any way. Rather, their being experienced—becoming objects of awareness—simply consists in their standing in the relevant relation.

matter, non-experiential in its intrinsic nature, ‘realises’ experiential properties. This position, which sees experience as a latency dependent on group relations, deserves to be considered a form of panprotopsychism.

⁴¹ James (1912), somewhat sceptical about minds and subjects, held that his neutral ‘pure experiences’ can get into subjective and objective ‘taking’ relations with each other, and that the subjective relation (as we would say) realises consciousness. Consciousness is a function, he maintains.

⁴² This broad characterisation covers for instance McClelland’s (2013) HOT-style reduction of awareness. Coleman (forthcoming a) combines a HOT-style theory with a Russellian acquaintance relation to implement awareness of qualities.

As long as the actual-world relational structures that implement awareness obtain in some world, the group A panprotopsychist is bound to say awareness is present in that world. Group B panprotopsychists, by contrast, are free to hold that only special kinds of categorical properties are suited to produce consciousness when appropriately arranged, so that a world that replicates the actual structures of awareness will not necessarily instantiate awareness if its categorical properties are sufficiently different from actuality. For group A panprotopsychists, such radically different categorical properties would merely supply a different kind of content for awareness than features actually.

Group A panprotopsychists can embrace reductionist physicalist attempts to analyse the awareness relation, for instance in terms of higher-order cognition,⁴³ or could leave it as a brute ‘acquaintance’ relation.⁴⁴ For panprotopsychists who embrace physicalist-style explanations of awareness, it is only their anti-reductionist attitude towards the qualities of experience that makes them non-physicalists. We briefly consider what panprotopsychists say about qualities next.

⁴³ For higher-order cognitive theories of awareness see Rosenthal (2005), Coleman (2015b). For attempts to incorporate such a theory into panprotopsychism see Coleman (2015a), (2016), McClelland (2013). A related proposal is Stubenberg’s (1998) constitution relation.

⁴⁴ Russell seems to vacillate on whether the awareness relation is acquaintance, or analysable into a more mundane relation.

5. Qualities

All panprotopsychists excepting panqualityists incur a burden to explain how qualities, the properties that provide the what-it-is-like-ness aspect of human experience, arise in the world. These theorists take what-it-is-like-ness to be non-basic, so must explain it in terms of something else. It seems that the options available are to claim that quality is a mere relational affair, or that it directly implicates the intrinsic characters of the protoconscious categorical properties.⁴⁵ Panprotopsychists who take the first option are in group B regarding awareness, seeing it as latent in protoconscious properties: they cannot view qualities *and* awareness as reducible to relational properties, for that would make them physicalists.⁴⁶ It must be said that this faction is likely to be on the small side, since panprotopsychists typically find physicalist treatments of qualities unsatisfactory; they consider Jackson's Mary—who cannot deduce what red is like from complete scientific information⁴⁷—a serious problem for physicalism, for instance. In fact I know of no current or historical panprotopsychist

⁴⁵ Panqualityism can be seen as the limit case of the second option. An issue I have ignored concerns the location of the qualities: e.g. early Russell held the qualities we experience to belong to external events, and later Russell held them to be instantiated in brains. But this issue is self-contained, and not central to panprotopsychism—even panqualityism—per se.

⁴⁶ Included here are those panprotopsychists who hold that the qualities of experience cannot exist without experience, and so make their entry to the world along with consciousness.

⁴⁷ Jackson (1982).

who endorses option one regarding qualities. Panprotopsychists typically agree with panpsychists that qualitative character is not a mere relational property, but are more sanguine about the possibility of a relational reduction of awareness. Accordingly, the majority of panprotopsychists belong to group A regarding awareness, and take option two when it comes to qualities. Though they must hold that one or the other is irreducible to relations, panprotopsychists may allow that either awareness or what-it-is-like-ness is so reducible.⁴⁸ Of course, a panprotopsychist may also hold that awareness and qualities, though not fundamental properties, are alike irreducible to pure relational goings on—this would be a combination of selecting group B as regards awareness and option two as regards qualities.

6. Objections to Panprotopsychism

For those who crave an explanation of human-level consciousness, and turn away from physicalism due to its apparent failure to provide such an account, embrace of panprotopsychism can be motivated by observing panpsychist struggles with the combination problem (see part I). Since it does not posit micro-subjects of experience, panprotopsychism faces no problem of explaining how those jointly constitute a

⁴⁸ What prevents the availability of a strain of panpsychism that holds that-it-is-for-ness, but not quality, to be fundamental and ubiquitous is the widely held belief that there cannot be a content-less awareness. But see Albahari (forthcoming).

macro-subject.⁴⁹ But of course it must now *generate* subjects—loci of awareness—and, for non-panqualityists, qualities from scratch. The panpsychist takes these two aspects of consciousness for granted as fundamental and ubiquitous. The non-panqualityist panprotopsychist, like the physicalist, can only seek to explain them in other terms. Even if the panprotopsychist has more resources at her disposal than the physicalist, in the form of the protoconscious categorical properties she posits, the explanatory challenge is great. But it is one the panprotopsychist is committed to overcoming.

Taking these challenges in reverse order: It is urged against non-panqualityist panprotopsychists that experienceable qualities cannot be grounded in non-qualitative categorical properties, since Jackson's Mary could surely know all about these, as well as about the micro-relations between non-qualitative protophenomenal properties, without being able to know what red is like.⁵⁰ The non-panqualityist panprotopsychist has two available responses to this objection. She will want to say either that qualities can be given a purely relational analysis, exactly mirroring 'a priori

⁴⁹ Coleman (2014) argues that panpsychists should instead become panprotopsychists because the subject combination problem is insuperable. But see Roelofs (2016).

⁵⁰ As Lewis (1988/2004) notes, the knowledge argument seems to show not just that *physical* lessons won't help Mary, but that *lessons* won't help her, whatever the subject matter. He was making the point against dualism, but it seems to apply here. The panqualityist will likely agree with Jackson that the relevant knowledge of qualities requires experience.

physicalist' responses to Mary,⁵¹ or that the additional panprotopsychic properties make the difference to Mary's derivation base despite being non-qualitative—that once Mary adds knowledge of the non-qualitative categoricals to her physical database, a derivation of redness becomes open to her.⁵² After all, panprotopsychist Mary's derivation-base of information is much richer than the physicalist's, and contains a wealth of detail about the fundamental categorical properties that on panprotopsychism constitute the qualities we experience. Moreover, since we do not currently know what such non-panqualityist protoconscious categorical properties are like, it is hard to say definitively that knowledge of them will not enable Mary to work out what it's like to experience red (Alter and Coleman forthcoming).

How plausible these responses are remains to be seen. There will be a suspicion that no amount of knowledge concerning non-qualitative properties would permit deduction of what a colour quality is like (Coleman 2015a), hence that non-panqualityist versions of panprotopsychism make little advance over physicalism regarding Jackson's argument. Since panqualityists view qualities of the sort we experience as irreducible to the non-qualitative—this is the moral they glean from Mary's story—in so far as the knowledge argument is a motivation for

⁵¹ See e.g. Jackson (1998), (2006), and Kirk (2005). As noted, she cannot also say this about the awareness aspect of consciousness, on pain of embracing physicalism.

⁵² Though he does not spell it out in this way, not least because he does not commit to our being able to grasp the categoricals, this would seem to be Stoljar's (2001) take on Mary's epistemic situation.

panprotopsychism, they will feel that panqualityism is the particular variant it motivates.

The panqualityist faces her most severe difficulty in accounting for awareness. The panpsychist takes this property as basic, and the physicalist seems to struggle to explain it.⁵³ It is not obvious that the addition of fundamental qualitative categorical properties gives the panqualityist the resources to do what neither of these other theorists can do, i.e. explain awareness in other terms. But it must be said that since this is a problem all other panprotopsychists also face, and as they *additionally* face a problem regarding qualities, a relative lack of problems seems to make panqualityism an especially strong version of panprotopsychism. In addition, it has the only viable positive proposal as to the protoconscious natures. Still, a relative strength will count for little against a decisive objection, so we must consider the force of the objection that panqualityism cannot handle awareness. No way of relating irreducible qualities to each other, however sophisticated, it is said, suffices to constitute awareness of those qualities. One can always conceive of a duplicate panqualityist human being, one whose qualitative protoconscious categorical properties are related in all the ways allegedly needed for awareness, for whom the light of consciousness remains off: this is the panqualityist 'awareness-zombie'.⁵⁴ He instantiates all the micro- and

⁵³ Panpsychists may purport to explain *human* awareness in terms of a more basic sort, but the issue here is awareness per se.

⁵⁴ This reasoning is analogous to that of the conceivability argument against panpsychism, discussed in part I §6. Chapter 7 of Goff (2017) compares panpsychism

macro-qualities we do, but lacks awareness of them. The conceivability of such a being is taken to show that all panqualityist attempts to reduce awareness fail (see Chalmers 2016).

For the panqualityist who is a relationalist about awareness, a clash of intuitions is generated here that reproduces a pattern familiar from discussions of physicalist attempts to explain consciousness. The analytic functionalist, for instance, holds that experiences can be analysed in terms of a certain functional profile: e.g. pain is whichever physical state of a creature meditates appropriately between bodily damage and protective behavior (Lewis 1966). Such a physicalist may feel, in the grip of her theory, that were the relevant functions implemented in a brain, consciousness would of necessity be instantiated—there could be no zombies then, not even conceivably (see Kirk 2005). The panqualityist who is a relationalist about awareness is likely to have similar misgivings about the conceivability of awareness-zombies, while reclining under the agreeable shade of her theory. It is not easy to see how to make progress from this stalemate: one of the most difficult things is to prod philosophers from positions they comfortably occupy.⁵⁵ But the panqualityist need

and panprotopsyism as regards their capacity to respond to such conceivability arguments.

⁵⁵ Coleman (2016) advocates panqualityist relationalism about awareness. Against Chalmers's awareness zombies, he argues that awareness simply does not show up in conceived scenarios because it has no proprietary or associated quality. This means we strictly cannot conceive of awareness as missing from a zombie world, leaving

not be a relationalist about awareness: she may be a member of group B above (§4). In this case, imagining the ingredients of the panqualityist zombie world will involve imagining awareness-latent qualities, awaiting only the right relational arrangement to excite their hidden power. Since, by hypothesis, our panqualityist duplicates' brains instantiate that arrangement, they will be aware of their brain-qualities, so not zombies after all.⁵⁶

The objector to panqualityism will doubtless feel such moves do nothing to block the threat of awareness zombies (especially if they are impressed by Goff's panpsychist zombies – see Part I, and Goff 2009), but how this debate progresses remains to be seen.⁵⁷ Part of the issue hangs on whether deflationism about awareness, which tends to go with the relational or functional analysis, has any plausibility. Clearly, awareness zombies also threaten non-panqualityist panprotopsyichists, though it is harder to assess the resources they can bring to the

zombie thought experiments irrelevant to the relationalist panqualityist analysis. See Mihalik (2016) for criticism.

⁵⁶ This move resembles Goff's 'phenomenal bonding' solution to panpsychist zombies (Pt. I, and Goff 2016). The panpsychist who invokes phenomenal bonding augments the relations between conscious categorical properties, whereas the panqualityist here augments the categorical properties themselves (with a disposition to collective awareness).

⁵⁷ One might worry that we have no grasp of 'awareness latency', and that to posit it is simply to package up the mysterious residue of consciousness into an inscrutable property.

problem given our ignorance of the non-qualitative protoconscious properties they posit. Perhaps these unknown non-conscious natures have just what it takes to constitute awareness in combination, whereas it might seem we already know that merely re-arranging qualities does not yield awareness (otherwise, the joke might go, a very skillful painter could make a conscious canvas). On the other hand, if a panqualityist can defend deflationism about awareness, she at least has irreducible qualities—the contents of consciousness—already in play, on her view, lessening the perceived shortfall in explaining consciousness as a whole.

Even if she can overcome awareness zombies, the panqualityist faces the further objection that, as is widely believed, the qualities she posits as the fundamental categoricals cannot in fact exist unexperienced. On this view, the qualities we are conscious of are essentially conscious. There is no such thing, for example, as an instance of the kind of redness we experience ('phenomenal red') existing just as redly but without any subject experiencing it. This is a point on which philosophers have wildly differing opinions, and it is hard to say whether a greater number consider it intuitively obvious that a quality of experience could also exist unexperienced than deem that to be an evidently false, or even incoherent, suggestion.⁵⁸ It is not clear, anyhow, what consensus would establish: we need some arguments. Arguments that qualities must be conscious are surprisingly hard to come by, given the commonness of the intuition (e.g., Strawson 1994). On the other side, proponents of unconscious qualities will point to phenomena such as blindsight, sleep

⁵⁸ In the former camp see Lockwood (1989), Coleman (2015a) and Chalmers (2016). In the latter see Strawson (1994), Kriegel (2009), Stubenberg (1998).

headaches and itching, and unconscious emotions as plausible instances of unfelt qualities.⁵⁹ Moreover, common sense undoubtedly conceives of the qualities we know through consciousness as persisting outside of our experience, albeit thought of as belonging to external objects like facing surfaces. Whatever else may be wrong with common sense, this conception does not seem to be obviously problematic in itself.

Conclusion

Physicalism dominated Anglo-American philosophy in the latter half of the twentieth century, and is perhaps still the most popular view among analytic philosophers. However, there are two deep problems with the theory: (i) it does not provide an account of the concrete categorical nature of matter, (ii) it does not seem to have the resources to provide an adequate explanation of human and animal consciousness. Panpsychism and panprotopsychism offer solutions to these problems that deserve investigation. It may turn out that the combination problem renders panpsychism no advance over physicalism; time will tell. Such a failure, combined with physicalism's perceived lack of explanatory resources, would motivate exploration of panprotopsychist alternatives. However, all variants of panprotopsychism also face objections. What is clear is that, as things stand, both panpsychism and panprotopsychism are views worth taking seriously. Physicalism's problems suggest that our conception of the nature of matter needs enriching, and these two families of theories provide natural ways of doing that.

⁵⁹ Rosenthal (1991), Jennum and Jensen (2002), Sack and Hanifin (2010); see Coleman (forthcoming b) for an argument based on such psychological data.

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