

Panpsychism

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Panpsychism is the view that consciousness is a fundamental and ubiquitous feature of the natural world. When Timothy Sprigge wrote the first Routledge Encyclopedia entry on panpsychism in XXXX, he was one of the very few philosophers defending such a view. As I write in 2018, panpsychism is currently enjoying something of a revival in academic philosophy and has become a well-respected albeit minority position.¹ In broad outline, the arguments and objections Sprigge raises in his entry are still those that dominate the debate, although much depth and detail has been added. The main attraction of panpsychism is its promise to provide a place for consciousness in our scientific story of the universe, and to do so in a way that avoids the difficulties associated with the more conventional options of physicalism and dualism. Its detractors argue, however, that these supposed advantages cannot be had: depending on how it's understood, panpsychism is subject either to the same problems as physicalism or to the same problems as dualism.

Varieties of Panpsychism

As the word is standardly used in academic philosophy, for something to be 'conscious' is just for it to have *experience* of some form. Human experience is rich and complex, involving emotions, sensations and sensory experience of the self and environment. However, there seems nothing incoherent with the idea that experience might exist in very simple forms. According to common-sense opinion of our time, consciousness takes up a small part of the vast universe, residing only in the central nervous systems of living animals. In opposition to this, the panpsychist claims that consciousness is everywhere.

On a standard form of panpsychism, each of the most fundamental constituents of the physical world, perhaps electrons and quarks, instantiate unimaginably simple forms of experience. It does not follow that all things are conscious; a rock may be a mere aggregate of conscious particles rather than something that is conscious in its own right. But, of course, some composite objects – most obviously human beings or their brains – are conscious, and in these cases the panpsychist would claim that the experience of the composite is derived from the experience of its most basic parts.²

Here are two important distinctions among panpsychist positions:

¹ For some recent work on panpsychism see Chalmers 2015; Bruntrup & Jaskolla 2016; Goff 2017; Seager forthcoming.

² There is also an increasingly popular version of panpsychism, known as 'cosmopsychism,' which locates fundamental consciousness at the cosmic-level rather than the micro-level. See Matthews 2011; Jaskolla & Buck 2012; Shani 2015; Nagasawa & Wager 2016; Goff 2017, forthcoming.

Dualistic panpsychism versus monistic panpsychism

When first entertaining the idea that fundamental particles have conscious experience, it is natural to think of a particle's experiential properties as distinct from its physical properties, the latter being properties such as mass, spin and charge.³ This would be to give a dualistic interpretation of panpsychism, as the particle would have two kinds of property: its experiential properties on the one hand and its physical properties on the other (N.B. the dualism is at the level of properties rather than individuals).

However, for the most part, the new wave of panpsychism in recent academic philosophy rejects this kind of dualism. The experiential properties of an electron or a quark do not 'sit alongside' its physical properties; rather its experiential properties are the *categorical nature* of its physical properties. Panpsychists defending such *monistic* panpsychism build on certain theses developed by Bertrand Russell in the *Analysis of Matter* (although there is clearly precedent in Leibniz, Schopenhauer, and others).⁴ Their starting point is the observation that physical science restricts itself to characterizing physical properties in terms of their behavioural dispositions; mass, for example, is characterized in terms of gravitational attraction and resistance to acceleration. Physical science tells us nothing of the underlying categorical nature of these physical properties, that is to say, the nature of the properties conceived independently of the behavioural dispositions they ground. The monistic panpsychist holds that physical properties are, in their categorical nature, forms of consciousness. Mass, for example is a form of consciousness that physics characterizes in terms of its behaviour.⁵ (N.B. This Russell-inspired view, which has become known as 'Russellian monism', also comes in non-panpsychist – or 'neutral' – forms, according to which the categorical natures of basic physical properties are forms of *proto-consciousness* rather than forms of consciousness proper. In the final section I will compare panpsychist and neutral forms of Russellian monism).⁶

Constitutive versus emergentist panpsychism

In general, panpsychists holds that animal consciousness is to be explained in terms of more basic forms of consciousness. However, there are two very different ways of making sense

³ Of course, it is a largely empirical question what the fundamental constituents of the physical world are. If it turns out that strings, or fields, are the fundamental entities, then the panpsychist will hold that these entities are the bearers of fundamental forms of consciousness.

⁴ Russell 1927

⁵ Dispositional essentialists (Ellis 2001; Molnar 2003; Mumford 2004; Bird 2007) deny that there are categorical properties underlying dispositional properties. Russellian monists have two lines of opposition to dispositional essentialism. Firstly, they argue that dispositional essentialism involves a vicious regress that renders it incoherent (Robinson 1982; Blackburn 1990; Armstrong 1997; Heil 2003; Lowe 2006; Goff 2017: ch. 6), and secondly that the knowledge and conceivability arguments (Jackson 1982, Chalmers 2009, Goff 2017) demonstrate that the reality of consciousness cannot be accounted for in terms of facts about dispositions (more on the latter below).

⁶ There is some debate over what exactly to call non-panpsychist forms of neutral monism. Chalmers groups them together as forms of 'panprotopsychism'. However, I'm sympathetic to Stoljar's (2018) rejection of the label on the grounds it over-states the affinity with panpsychism.

of this. *Constitutive panpsychists* hold that facts about the consciousness of the animal are *grounded* in facts about the consciousness of its most fundamental parts.⁷ There is currently a rich and evolving literature on the topic of grounding, but for our purposes we can think of grounding as a ‘nothing over and above’ relationship.⁸ Where you have grounding relationship (e.g. facts about parties are grounded in facts about people reveling, facts about tables are grounded in facts about their atoms) the grounded states of affairs are *nothing over and above* the grounding states of affairs (the fact that there is a party wholly consists in the fact that there are people reveling, the fact that there is a table wholly consists in the fact that there are atoms arranged table-wise). Thus, for the constitutive panpsychist, facts about Sarah’s consciousness are nothing over and above facts about the consciousness of certain of Sarah’s micro-level parts.

In contrast, the emergentist panpsychist holds that animal consciousness *causally arises* from micro-level consciousness.⁹ Effects are ontologically extra to their causes (e.g. a child is caused by but entirely distinct from its parents) and hence for the emergentist panpsychist animal consciousness is an extra layer of being causally dependent on but ontologically additional to the forms of consciousness that reside at the micro-level. Typically the emergentist will postulate basic principles of nature that govern the emergence of macro-level consciousness from micro-level consciousness.

The Case for Panpsychism

Panpsychism cannot be directly tested, as consciousness is unobservable: you cannot look into my head and observe my feeling of hunger. However, it is justified on the basis that it is the best account of the place of consciousness in nature. Consciousness is something we know to exist not through observation or experiment but by being conscious: Each of us knows with something close to certainty that our own feelings and experiences are real. It follows that any theory with aspirations to be a complete account of reality must be able to accommodate the phenomenon of consciousness. In this sense, the reality of consciousness is a hard datum: a ‘complete’ theory which can account for all of the data of observation and experiment but cannot account for the datum of consciousness is thereby falsified.

Dualism accounts for consciousness as basic feature of the world, distinct from the physical features of the world. Substance dualists hold that there are non-physical individuals which are the bearers of consciousness; property dualists hold that the brain has non-physical consciousness properties in addition to its physical properties. Dualism of either form is challenged on empirical grounds. Many philosophers believe we have strong inductive reason to believe that events in the physical world form a *causally closed system*, in the sense that any physical event has a wholly physical cause. If this is true, then there doesn’t

⁷ This terminology is from Chalmers 2015. For defences of constitutive panpsychism see Chalmers 2015; Roelofs 2015, 2016; Goff 2017.

⁸ For more on grounding see Trogon 2013.

⁹ For defences of emergentist panpsychism, see Rosenberg 2004; Brüntrup 2016; Seager 2016; Mørch 2014.

seem anything left for non-physical experiential properties to do, and hence it's hard to make sense of consciousness having any role in the production of behaviour. Epiphenomenalist dualists are happy to embrace this implication, but many find this beyond the pale.

Physicalists try to account for consciousness in terms of physical processes in the body or brain. If they are able to do this, then they can avoid worries arising from the causal closure of the physical as consciousness would be part of the causal chain of physical events. The trouble is that it's not clear that physicalists are able to do this, as there are powerful philosophical arguments – the conceivability and knowledge arguments – that purport to show that the facts about consciousness cannot possibly be grounded in the physical facts.¹⁰ If these arguments are sound, then physicalism is inconsistent with consciousness realism.

Panpsychism purports to be an elegant middle way that avoids all of these difficulties. The problems of the physicalist are avoided by explaining animal consciousness not in terms of physical facts alone, but in terms of more basic forms of consciousness (perhaps in conjunction with physical facts). And the panpsychist hopes to avoid the problems of the dualist by making consciousness an essential part of the putatively closed causal chain of physical events.

At least this is what panpsychists claim. However, its detractors argue that no form of panpsychism has all of these benefits: Constitutive panpsychism may avoid the problems of dualism but faces the problems of physicalism; emergentist panpsychism may avoid the problems of physicalism but face the problems of dualism. In either case, it is claimed, panpsychism offers no advance on the more conventional options of dualism and physicalism. Let us consider these arguments in more detail.

Is constitutive panpsychism any better than physicalism?

Consider your own conscious mind right now. According to constitutive panpsychism, the reality of your mind and its experience is entirely constituted by facts about trillions of tiny conscious subjects that make up your brain, in something like the way the reality of a table is constituted of facts about its atoms. The *combination problem* is the challenge of trying to make coherent sense of this. We feel we can understand how a table is made up of its parts, but it's hard to grasp how a mind can be made up of other minds.¹¹

One way of pushing the combination problem is via a conceivability argument, paralleling the conceivability argument against physicalism.¹² The conceivability argument against physicalism focuses on *philosophical zombies*, defined as creatures that are physical

¹⁰ Jackson 1982; Chalmers 2008. I have argued (Goff 2011, 2017) that these arguments hang or fall on a more basic form of argument against physicalism: the transparency argument. This argument starts from the thesis that introspection provides us with knowledge of the essential nature of our conscious states.

¹¹ Chalmers 2016 distinguishes between many forms of the combination problem, some of which apply to emergentist forms of panpsychism.

¹² Goff 2009, 2017. Sam Coleman (2014) offers a different argument for the incoherence of mental combination.

duplicates of human beings but which lack consciousness.¹³ The argument precedes in three stages:

1. Zombies are coherently conceivable (i.e. they cannot be ruled out a priori)
2. Therefore, zombies are possible (some kind of principle linking conceivability to possibility is employed to move from (1) to (2),
3. Therefore, the consciousness facts cannot be grounded in the physical facts (The move from (2) to (3) is justified in terms of the generally agreed principle that: If fact X grounds fact Y, then necessarily: If X, then Y).

The conceivability argument against constitutive panpsychism focuses on *micro-experiential zombies*: physical duplicates of humans (or other actually conscious animals) which (A) are such that each of their most fundamental particles is conscious, but (B) are such that no composite part of the organism has consciousness. Constitutive panpsychists are threatened by micro-experiential zombies in pretty much the same way that physicalists are threatened by regular zombies:

1. Micro-experiential zombies are conceivable,
2. Therefore, micro-experiential zombies are possible,
3. Therefore, the facts about human consciousness cannot be grounded in the physical facts plus the facts about micro-level experience (assuming animal consciousness is instantiated by a non-simple part of the organism).

If these arguments are exactly parallel, then constitutive panpsychism is no advance on physicalism in terms of explaining human consciousness.

However, it could be argued that there are a number of important differences. Firstly, the first premise of the conceivability argument is often supported by the observation that the concepts involved in articulating the physical facts are very different to the concepts involved in articulating the consciousness facts; the former kind of concepts are *third-personal* and *quantitative*; the latter kind of 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.

Another relevant difference between physicalism and constitutive panpsychism can be brought out by reflecting on the case of the knowledge argument against physicalism.¹⁴ 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

¹³ Chalmers 2008.

¹⁴ Jackson 1982.

experience, Mary will never be able to work out what it's like to see red. To consider the analogous challenge to the constitutive panpsychist, we must imagine Mary knows not only the physical facts but also the facts about the micro-experience the constitutive panpsychist takes to underlie 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 a certain experiential property P – in this case the missing link in a spectrum ranging from dark to light blue – can be derived from knowledge of other experiential properties – the other shades of blue in the spectrum – without actually being acquainted with P.¹⁵ 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.

Even if the conceivability argument against constitutive panpsychism is not conclusive, the combination problem is clearly a serious challenge to the constitutive panpsychist. Perhaps there is no argument that higher-level consciousness facts *cannot* be derived from more basic consciousness facts, but nobody has yet managed to show that they *can* (although there are a number of promising proposals¹⁶). Much of the recent work on panpsychism is devoted to trying to solve the combination problem, and only time will tell whether it can be overcome.

Is emergentist panpsychism any better than dualism?

Constitutive monistic panpsychists arguably have little difficulty accounting for the causal efficacy of animal consciousness. Even if the physical world is causally closed, animal consciousness, they would claim, is part of that causally closed system. So long as we construe 'the physical facts' to include the categorical nature of physical properties, the monistic constitutive panpsychist can accept that animal consciousness is grounded in, and so nothing over and above, the fundamental physical facts. But for the emergentist panpsychist, the experiential properties of humans and other animals are fundamental properties in their own right, causally dependent on, but ontologically additional to, the more basic forms of consciousness from which they emerge. There is then a worry that, if the physical world is causally closed, these new properties will have nothing left to do and no role to play in the generation of behaviour.¹⁷

This charge seems well-made against the *dualistic* emergentist panpsychist. Indeed, dualistic panpsychism is itself a form of property dualism, just one that postulates non-physical

¹⁵ Hume 1748/1999: Section II

¹⁶ Roelofs 2015, 16; Goff 2016, 2017; Chalmers 2016.

¹⁷ It is usually implicit in the causal closure argument for physicalism that closure does not raise problems for properties that are not part of the basic causally closed system so long as those properties are wholly grounded in the basic causally closed system. For example, the fact that baseballs are not mentioned in the fundamental causal story of the universe does not render baseballs epiphenomenal, as it is plausible that the baseball is wholly grounded in facts about its parts (although some dispute this, e.g. Merricks 2003). It is arguably only if the baseball has emergent features that are not grounded in more fundamental facts that epiphenomenalism becomes a worry (although even then it depends how we understand causal closure, as we shall explore).

experiential properties not only in brains but throughout nature. In terms of accounting for the causal efficacy of animal consciousness, no extra advantage seems to be bought by this additional postulation.

Whether or not the *monistic* emergentist panpsychism fares better depends on how we understand the thesis of causal closure. If the claim is simply that every event can be explained in terms of the properties referred to by physical science (broadly construed) – call this ‘weak causal closure’ – then monistic emergentist panpsychism is safe. For the monistic emergentist panpsychist accepts that the only properties instantiated in the brain are those that can in principle be referred to by neuroscience, chemistry and fundamental physics. It’s just that there is more to the nature of those properties than is revealed by those sciences; physical science picks these properties out in terms of the dispositions they ground, whilst in their underlying categorical nature they are forms of consciousness. As the categorical nature of brain states, states of human consciousness are part of the causally closed physical world. However, if causal closure is taken to be the view that *the micro-physical world* is causally closed (that every physical event has a micro-level sufficient cause) – call this ‘strong causal closure’ – then emergentist panpsychism is indeed no advance on dualism, as the emergent properties of animal consciousness will be ‘crowded out’ from impacting on the causal evolution of the physical world.

Whether emergentist panpsychism is tenable, therefore, depends on which closure thesis (if any) we have empirical grounds for accepting. The problem with assessing this is that, although causal closure is often assumed in arguments defending physicalism, actual defences of it are thin on the ground. On the face of it, there seems to be a good case for weak causal closure. If, as the (panpsychist or non-panpsychist) dualist imagines, non-physical experiential properties made a major contribution in the brain, this would surely show up in our neuroscience. The physical processes in the brain would be ‘gappy’, with many events having no physical cause. It would appear as though a poltergeist was fiddling with the brain. It is much less clear that we have any reason to accept strong causal closure. There are over twenty billion neurons in the cerebral cortex. Do we really have observational grounds for holding that everything that takes place in the cerebral cortex is entirely determined by the causal powers of its micro-level constituents? What would it look like if this were true and what would it look like if it were false? At any rate, there has been no detailed empirical defence of this thesis.¹⁸ If the empirical data supports weak but not strong causal closure, then the emergentist (monistic) panpsychist account of consciousness is entirely consistent with physical science.

¹⁸ Probably the best defence of something like strong causal closure is Papineau (2001) (Papineau’s thesis is more qualified than the one I describe above, but it would be problematic for the emergentist panpsychist for similar reasons to those I have articulated). However, Papineau’s argument does not go into a great deal of detail regarding the alleged empirical support for causal closure.

Panpsychism versus neutral monism

We can see from the above that panpsychism (whether constitutive or emergentist) is most attractive in its monistic form, that is to say, as a form of Russellian monism. However, we noted earlier that there are also non-panpsychist – or ‘neutral’ – forms of Russellian monism that deny that the categorical natures of fundamental physical properties are forms of consciousness. Most neutral Russellian monists deny that we currently have any positive conception of these neutral properties; they nonetheless hold that we have good reason to suppose that they form the basis of consciousness.¹⁹

It is worth noting at this stage that neutral forms of Russellian monism share many of the advantages of panpsychist forms:

- *Causal Closure* – Like the panpsychist Russellian, the neutral Russellian monist can claim that conscious states are the categorical nature of brain states, and in this way avoid worries arising from causal closure.²⁰
- *The ‘Anti-Physicalist’ Arguments* – I said earlier that the conceivability and knowledge arguments against physicalism aim to show ‘that consciousness cannot be accounted for in terms of the physical facts.’ This statement is ambiguous, as we may use ‘physical facts’ more *narrowly* to mean ‘the dispositional properties physical science gives us a transparent understanding of’ or more *broadly* to mean ‘such dispositions and their categorical grounds.’ In fact, the conceivability and knowledge arguments are trying to show that consciousness cannot be explained in terms of physical facts narrowly construed – the facts that Mary knows in her black and white room – which is perfectly consistent with Russellian monism (for the Russellian monist, consciousness is accounted for in terms of the physical facts broadly construed). Hence, Russellian monists – whether panpsychist or neutral – are not subject to these arguments.

Given this equality between the two forms, one might be tempted to think that neutral Russellian monists have the edge in avoiding a commitment to micro-level consciousness. However, it would be wrong to think that the neutral Russellian monist has a more parsimonious position than the panpsychist Russellian monist. Both postulate categorical properties that underlie the dispositional properties that basic physics reveals to us. It is no more parsimonious to suppose that those categorical properties are experiential properties than it is to suppose that they are non-experiential properties. Indeed, given that (according

¹⁹ Panqualityism, prominently defended by Sam Coleman (2012, 2014, 2015, 2016), is a form of neutral monism which does offer a positive conception of the neutral properties, as unexperienced qualities. Derk Pereboom (2011, 2015) is optimistic that we will one day form a positive conception of the neutral properties, whereas Colin McGinn (1989) (who I think counts as a Russellian monist even though he has never used that label to describe his view) argues that human beings are constitutively incapable of ever grasping them.

²⁰ Constitutive neutral Russellian monist is consistent with strong causal closure, while emergentist neutral Russellian monism is consistent with weak but not strong causal closure. In other words, panpsychist and neutral forms of Russellian monism are exactly equivalent in this regard.

to Russellian monism) the only kind of categorical properties of matter we have direct access to are experiential properties (i.e. the experiential properties instantiated by human brains), the supposition that matter also has non-experiential categorical properties is unmotivated. One would need a reason for supposing that matter instantiates two kinds of categorical property rather than just one. Thus, although both panpsychist and neutral forms of Russellian monism are equally placed to fit human consciousness into the physical world, panpsychist forms are to be preferred on grounds of simplicity.²¹

Conclusion

In contemporary Western thought, panpsychism suffers from unfortunate cultural associations. However, we should judge a view not on its contingent cultural associations but on its explanatory power. Panpsychism offers a simple and elegant account of the place of consciousness in nature, one that avoids the philosophical and scientific worries that plague its more conventional rivals. At the very least, it is a view that should be taken seriously.

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²¹ I defend this line of argument in Goff 2016, 2017. One might also think that the non-panpsychist Russellian monists have the edge on the grounds that, unlike panpsychists, they are not subject to the combination problem (as argued in Stoljar 2018). However, neutral monists avoid the combination problem only because they offer no positive conception of what the fundamental properties are. As a last resort, the constitutive panpsychist may also add some unknown element to solve the combination problem, e.g. perhaps there is a 'phenomenal bonding' relation that somehow closes the conceivability gap between micro-consciousness and human consciousness (Goff 2016). I have argued (Goff 2017: ch. 7) that this kind of 'semi-noumenalist' panpsychism is preferable to (non-panqualityist) neutral monism, as it at least provides a positive conception of the intrinsic properties of matter.

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