



The case for panpsychism: a critical assessment

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Abstract

According to panpsychists, physical phenomena are, at bottom, nothing but experiential phenomena. One argument for this view proceeds from an alleged need for physical phenomena to have features beyond what physics attributes to them; another starts by arguing that consciousness is ubiquitous, and proposes an identification of physical and experiential phenomena as the best explanation of this alleged fact. The first argument assumes that physical phenomena have categorical natures, and the second that the world's experience-causing powers or potentials underdetermine its physical features. I argue that panpsychists are not entitled to these assumptions.

Keywords Panpsychism · Categoricalism · Structuralism · Noumenalism · Phenomenalism

1 Introduction

An unspoken assumption of most contemporary theorizing about the relationship between consciousness and the physical world is that physical things are familiar, well-understood, and ultimately unmysterious. The key to solving the mind-body problem, in this view, is to achieve a better understanding of the nature of consciousness.

It hasn't always been this way. A hundred years ago, the assumption was that conscious experience was familiar, well-understood, and ultimately unmysterious. In this view, the key to solving the mind-body problem is to achieve a better understanding of the nature of physical things.

In recent decades, a small but growing number of philosophers have returned to this older take on the mind-body problem, arguing that it's best solved by understanding the physical as grounded in the phenomenal, rather than vice versa. Most of the activity in this area has revolved around a strong form of panpsychism, according to which all of our world's most fundamental physical entities are conscious entities of some sort.

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I believe there's much to be gained by returning to the older, "mind-first" perspective on the mind-body problem: I agree with the panpsychists that it's more fruitful to understand the physical in broadly phenomenal terms rather than the reverse.

However, panpsychism is not the only theory that takes this perspective. Others include the classic idealism of Leibniz and Berkeley, the noumenalism of Kant and his followers, and the phenomenalism of J.S. Mill, C.I. Lewis, and A.J. Ayer.

The recent panpsychist revival hasn't led to a significant reassessment of these more traditional mind-first theories. It's not that panpsychists explicitly reject idealism, noumenalism, and phenomenalism; for the most part, they don't discuss them at all (except occasionally to emphasize that panpsychism isn't a form of Berkeleyan idealism).

The central message of this paper is that this is a mistake, at least when it comes to noumenalism and phenomenalism. These theories, which attempt to reduce physical facts to facts about experience-causing powers (noumenalism) or experiential potentialities (phenomenalism), are ones that a panpsychist must take seriously, given his or her core commitments. At the same time, noumenalism and phenomenalism pose a direct threat to panpsychism, by putting it in conflict with the same modal intuition that casts doubt on traditional idealism, namely, that many of our world's physical features could have existed even if there had never been any conscious experience. Or so I shall argue.

The paper proceeds as follows.

In §2, I explain the version of panpsychism that interests me here (I call it strong panpsychism), and contrast it with the noumenalism and phenomenalism sketched above.

One of the main arguments for strong panpsychism proceeds from the alleged incompleteness of scientific descriptions of the physical world. In §3, I argue that even if scientific descriptions of the physical world are incomplete in the way panpsychists contend, their incompleteness doesn't give us a good reason to accept strong panpsychism.

The argument of §3 relies on the claim that physical things' intrinsic natures might consist of experience-causing powers, rather than actual experiences. In §4, I consider a panpsychist objection to this, based on the idea that powers must be grounded in categorical features of what has them; I argue that we have good reasons to reject this idea, and that the arguments panpsychists and others offer in support of it don't work.

In §5, I consider the other main argument for strong panpsychism, according to which it best explains the alleged ubiquity of conscious experience. I argue that even if conscious experience is ubiquitous, we have good reasons not to think that the best explanation for this is that strong panpsychism is true.¹

A recurring theme of the paper is that panpsychists tend to overlook the fact that physical things have experience-involving natures that they possess without having conscious experiences or qualia, such as powers to cause experiences, and the possibility that our world's physical features supervene on its experience-causing powers or potentials.

¹ §5 also criticizes David Chalmers's "Hegelian" argument for panpsychism.

2 Mind-first metaphysics

According to what I've called mind-first metaphysics, the physical facts of our world metaphysically supervene on broadly mental facts. There are (at least) four versions of mind-first metaphysics: traditional *idealism*, according to which physical things consist of the sort of experiences sentient beings typically have when they perceive physical things; a strong form of *panpsychism*, according to which the most fundamental physical things are conscious minds or experiences of some sort (though not, or at least not typically, the sort of minds or experiences that we have); *noumenalism*, according to which the world's physical features supervene on its experience-causing powers; and *phenomenalism*, according to which physical things are a certain kind of potential for experience. In this section, I describe the kind of panpsychism that is the focus of this paper, and contrast it with two alternative mind-first metaphysics that will come into play in §5.

Panpsychism

The kind of panpsychism that I'm interested in here is what I'll call *strong panpsychism*, according to which physical phenomena are nothing but conscious (experiential) phenomena. This is in contrast to *weak panpsychism*, which says only that all physical phenomena have conscious (experiential) features. (Strong panpsychism entails weak panpsychism, but not vice versa.)²

There are two main versions of strong panpsychism.

According to *constitutive panpsychism*, all the world's mental and physical features reduce to the experiential features of fundamental physical phenomena, in the sense that there's an *a priori* entailment from facts about the experiential features of fundamental physical phenomena to all other facts about the natural world (physical as well as experiential). So, although constitutive strong panpsychists hold that all physical phenomena are just experiential phenomena, in their view the experiential features of non-fundamental physical entities are just the sum of the experiential features of their fundamental experiential parts: complex physical entities, like brains and doormats, have no novel experiential properties over and above the properties they inherit from their fundamental constituents. According to strong panpsychists, if you knew everything about the atomic structure of a bat, and everything about atoms' experiential features, you could infer everything about the bat's conscious mental life.³

According to *emergent panpsychism*, the experiential features of non-fundamental physical entities, like brains, don't reduce to facts about those entities' fundamental constituents. Unlike constitutive panpsychists, emergent panpsychists do not think it's

² The distinction between strong and weak panpsychism is equivalent to Galen Strawson's distinction between "pure panpsychism" and "psychism": (Strawson, 2020, p. 317).

³ Strong panpsychists aren't committed to saying that every physical entity has a mental life: it's consistent with strong panpsychism to say that a doormat, for example, is a complex of minds that do not constitute a further mind having the minds in the collection as parts.

possible to infer anything about a bat's conscious mental life solely from facts about the bat's fundamental physical constituents and their experiential features.⁴

The focus of this paper is strong panpsychism. The differences among various versions of strong panpsychism won't concern us here. From this point forward, when I speak of panpsychism without qualification, it's strong panpsychism I have in mind.

Noumenalism and phenomenalism

According to panpsychists, the physical facts supervene on the experiential facts, because physical entities (or the most fundamental ones) just *are* experiential entities. An alternative mind-first view is that the physical facts supervene on the experiential facts because the existence of any physical state of affairs reduces to the existence of suitable experience-causing powers. Call this *noumenalism*.

Noumenalism is perhaps best known from the Kantian metaphysical tradition, according to which we can never know more about physical reality than that it is the ground or cause of experience, including the experiences that are our only evidence of a physical world. The further nature of this ground or cause—the “noumena,” as Kant calls them—is unknowable to us, since the only information we can get about noumena is what we can learn from experience, and that information can only tell us about the noumena's experience-causing powers. In Kant's view, our knowledge of physical things just is knowledge of things' experience-causing powers. From here it's a short step to the conclusion that the world's physical features supervene on its experience-causing powers, this being the simplest explanation of the sufficiency of knowledge about experience-causing powers for knowledge of physical things.⁵

A streamlined alternative to noumenalism is the phenomenalism of J.S. Mill. According to Kant, what explains why experience occurs the way it does is the exercise of suitable experience-causing powers by otherwise unknowable entities (the noumena). According to Mill, what explains why experience occurs the way it does is the realization of potentials for experience to occur that way. The Kantians' noumena with their experience-causing powers wouldn't explain why experience occurs as it does, if they didn't ground objective potentials for experience to occur that way. But, reasons Mill, we can appeal to the potentials without positing any noumena to ground them. So instead of construing physical things as noumena endowed with experience-causing powers, we can construe them as potentials for experiences to occur in suitable ways: “permanent possibilities of sensation,” as Mill calls them.⁶

⁴ Chalmers distinguishes constitutive from emergent panpsychism in (Chalmers, 2017, p. 25).

⁵ The classic source for Kantian noumenalism is Kant (1781/1998); see esp. (Kant, 1781/1998, 350). Langton (1998) is a sympathetic interpretation of Kant along the lines sketched above. Recent defenses of the view that physical facts reduce to facts about experience-causing powers include (Robinson, 1982, pp. 108–123), Fumerton (1985), Foster (2008), Chalmers (2010), and Smithson (2017) (though unlike Kant, Robinson and Foster think we do know something about the nature of the source of experience, namely that it's God).

⁶ The classic source for phenomenalism is (Mill, 1865/1979, pp. 177–209). More recent defenses of phenomenalism include Price (1932), (Price, 1940, pp. 141–92), (Ayer, 1936, pp. 138–46), (Ayer (1946–1947), Lewis (1946), and Pelczar (2019)).

Although panpsychists, noumenalists, and phenomenologists all give experiential phenomena pride of place in their metaphysical theorizing, panpsychism is in deep tension with the other two theories, for reasons that will become clear in due course. First, however, let's look at the earliest and probably most influential argument for strong panpsychism: the argument from the incompleteness of physics.

3 Argument from the incompleteness of physics

An early argument for strong panpsychism arose in the late 1920s, in response to the rarefication of scientific theorizing about the natural world. Arguably, the entire lexicon of contemporary physics consists of mathematical vocabulary, a predicate to designate causation or some similar relation of contingent dependence (such as conditional probability), and maybe a term for spacetime (though it's controversial whether "spacetime" or "spatiotemporal" has to go undefined in modern physics).⁷

One of modern panpsychism's original proponents, Arthur Eddington, doubted that such a sparse vocabulary had the resources to give a complete description of any physical state of affairs. At most, he thought, we can use the vocabulary of modern physics to give a complete description of the world's causal and mathematical structure. But, reasoned Eddington, the structure that physics describes must be the structure of *something*, and this something can't just be more structure. What might it be, then? One possibility is that it's a something-we-know-not-what. However, we do know of one type of non-structural (or not purely structural) something: conscious experience. Moreover, we know that conscious experience occurs in close association with at least some physical systems (our own bodies, or parts thereof). It therefore seems reasonable (the argument concludes) to suppose that the world whose structure physics describes is a world of experience: that, as Eddington puts it, "the stuff of the world is mind-stuff."⁸

Let's state the argument more exactly. Define a thing's *intrinsic nature* as all the features it has independently of how it relates to other things.⁹ Define a thing's *experiential nature* as all the features it has in virtue of there being something it's like to be that thing, or in virtue of the thing's having constituents each of which there's something it's like to be. Finally, define *structural natures* as natures things have in virtue of satisfying scientific descriptions couched in purely causal and mathematical terms (plus maybe a term for spacetime). Then we have the following argument for strong panpsychism:¹⁰

IP1 All physical phenomena have intrinsic natures in addition to the structural natures that physics describes.

⁷ Bain (2006) argues for a structuralist reduction of spacetime; Rovelli (2006) argues for an eliminativist stance on time and space.

⁸ (Eddington, 1929, p. 276).

⁹ This definition might need refinement to be useful for a wider range of philosophical applications, but for present purposes it should do. For more on intrinsicity, see Langton and Lewis (1998), Marshall and Parsons (2001), and Marshall (2016).

¹⁰ See (Eddington, 1929, pp. 247–92), (Mørch, 2014, p. 28), (Strawson, 2017, pp. 57–60), and (Goff, 2017, pp. 135–64). "IP" stands for Incompleteness of Physics.

IP2 The only such natures we know of are experiential natures.

IP3 If all physical phenomena have intrinsic natures in addition to the structural natures that physics describes, and the only such natures we know of are experiential natures, then it's reasonable to think that the intrinsic natures of all physical phenomena are purely experiential natures.

IP4 So, it's reasonable to think that the intrinsic natures of all physical phenomena are purely experiential natures.

—where it's a plausible implication of IP4 that physical phenomena are nothing but experiential phenomena.

IP1 is controversial. According to ontic structural realists, an ideal completed physics would have the resources to give a complete description of the physical world in purely structural terms.¹¹

IP3 is also controversial. According to neutral monists, panprotopsychoists, and certain non-standard materialists, physical phenomena have non-structural, non-experiential natures that underlie or constitute both their structural and their experiential features.¹²

However, the weakest step of the argument, as I see it, is IP2. It's false that experiential natures are the only natures we know of, besides the structural natures that physics describes. We also know that there are natures physical things have in virtue of possessing experience-causing powers.

It's uncontroversial that physical things, or many of them, have experience-causing powers; i.e., that a physical thing is apt to cause experiences in conscious beings that possess suitable perceptual sensitivities and relate to the thing in suitable ways. This is true even of physical things that do not, in fact, cause any experiences, due to the absence of suitably sensitive or related minds.¹³

It's also uncontroversial that powers are intrinsic to the things that have them. For example, the Sun's power to exert a gravitational pull on other bodies is intrinsic to the Sun: the Sun could have that power even if there were nothing else for it to exert it on. Finally, things' experience-causing powers are not among the structural features that physics ascribes to things; at least, this is something that proponents of the argument from the incompleteness of physics must agree with, since according to them physics lacks the resources to describe things in experiential terms (otherwise, IP2 would be false).

The fact that many physical things have experience-causing powers shows that IP2 is false, but panpsychoists might respond by replacing IP2 with a premise to the effect that other than the structural natures that physics describes, experiential natures are the only natures that we know about *and can plausibly attribute to all physical phenomena*, including fundamental physical phenomena like quarks, quantum states,

¹¹ Prominent defenses of structuralism include Russell (1927a), (Ladyman et al., 2007, pp. 130–89), Sider (2011), French (2014), and Tegmark (2014); see also Dirac (1938–1939), and, for what may be the earliest modern version of structuralism, Boscovich (1763/1922).

¹² For neutral monism, see (James, 1912, pp. 226–233) and (Russell, 1927b, pp. 287–302); for panprotopsychoism, see (Chalmers, 1996, pp. 277–292); for a relevant form of non-standard materialism, see (Stoljar, 2020, pp. 220–221).

¹³ What about things like quarks? More on these below.

etc. With a suitable amendment to IP3, this can still carry panpsychists to their desired conclusion.

But why is it implausible to think that all physical phenomena have experience-causing powers? Maybe we can't plausibly attribute all physical things powers to cause experiences in *us* (ordinary human beings), but that doesn't show that some physical things lack experience-causing powers: it merely shows that some physical things lack the power to cause experiences in us. If there are *metaphysically* unobservable physical things—physical entities such that perceiving them is metaphysically impossible—then it does follow that some physical things completely lack experience-causing powers. But we have no reason to think that there are metaphysically unobservable physical things.

In any event, the suggestion that all physical things have experience-causing powers is certainly no *less* plausible than the suggestion that all physical things have actual experiences; for example, it's no less plausible to say that quarks have the power to cause experiences (in suitably sensitive observers) than to say, as panpsychists do, that quarks are conscious.¹⁴

4 An appeal to categorical natures

I've criticized the panpsychists' argument from the incompleteness of physics for overlooking experience-causing powers as candidates for physical things' intrinsic non-structural natures. However, panpsychists might argue that even if it's plausible that all physical things have experience-causing powers, we still have to say that physical things *also* have intrinsic *categorical* natures. In particular, they might argue that in order for physical things to have experience-causing powers, they must have categorical natures that ground those powers.

The view that powers require grounding in categorical features of what has them, or, more generally, that modal states of affairs (involving powers, dispositions, propensities, probabilities, possibilities, etc.) can exist only in virtue of non-modal (categorical) states of affairs, is called categoricalism. If categoricalism is true, then all physical things have, in addition to the structural features attributed to them by physicists, non-structural categorical features. According to panpsychists, the only plausible candidates for such features are experiential features: features things have by having actual experiences (and not merely powers to cause experiences).¹⁵

This suggests an amendment of the argument from the incompleteness of physics. If we replace

IP1 All physical phenomena have intrinsic natures in addition to the structural natures that physics describes.

with:

¹⁴ One possible view is that powers are themselves experiential phenomena: see, e.g., (Mørch, Mørch (2014), 90–119). However, we can attribute things experience-causing powers without construing the powers as experiences.

¹⁵ See (Goff, 2017, pp. 166–671) and (Strawson, 2017, p. 77).

IP1* All physical phenomena have intrinsic *categorical* natures in addition to the structural natures that physics describes.

and amend IP3 accordingly, we get the conclusion:

IP4* It's reasonable to think that the intrinsic categorical natures of all physical phenomena are purely experiential natures.

—which plausibly entails that physical phenomena are nothing but experiential phenomena.

The first premise of this new argument (IP1*) is categoricism as applied to the physical world. In the remainder of this section, I argue that the premise is false, and criticise the arguments people have given in support of it.

Against categoricism

Radioactive isotopes are disposed to decay at rates given by the isotopes' half-lives. In the case of radon, this half-life is about four days. Presumably, about 50% of the radon atoms that come into existence in our world decay within four days. But we can imagine a world categorically indistinguishable from ours, in which radon atoms are disposed to decay at a different rate. For example, we can imagine a world where radon atoms have a 90% chance of decaying within four days. We need only imagine that due to a statistical fluke, about 50% of the radon atoms in this other possible world decay within four days, despite the atoms being disposed to decay more quickly than in our world. This other world differs from ours in the dispositions that exist in it, despite being identical to our world in all categorical respects. Assuming that what we're imagining is metaphysically possible, it follows that the dispositions for radioactive decay that exist in our world don't exist in virtue of our world's having some categorical feature.¹⁶

You might question whether the imagined world is metaphysically possible. That's a fair question to raise about any conceivability argument, of which the foregoing is an example. But the burden is on those who raise it to provide a reason to think that our modal intuitions are unreliable in this case, and it's not obvious what that reason might be.

Whether or not the foregoing argument against categoricism succeeds, panpsychists who appeal to categoricism owe us some positive reason to accept it. Let's consider the arguments people have given for categoricism. (Not all of these come from panpsychists.)

Armstrong's argument for categoricism

According to David Armstrong, we have to accept that dispositions and other modalities require a categorical basis, in order to avoid committing ourselves to non-existent entities. According to Armstrong, if dispositions lack any categorical basis, then when

¹⁶ For arguments against categoricism similar to the one given here, see McKittrick (2003) and Mumford (2006).

an object has an unmanifested disposition, “*the object still has within itself, essentially, a reference to the manifestation that did not occur.*” It points to a thing that does not exist.” This is objectionable, says Armstrong, because it entails “a Meinongian metaphysics, in which actual things are in some way related to non-existent things.”¹⁷

The idea, apparently, is that if a thing x has a disposition to do V , x must point to V ; so, if x has an unmanifested disposition to do V , and this disposition has no categorical basis, then x must point to V by pointing to something that is neither V itself (since the disposition is unmanifested) nor any categorical entity. And from this it supposedly follows that if x has an unrealized and categorically unbased disposition, there must be some non-existent entity that x points to.

It’s unclear why something with a disposition needs to “point to” whatever it has a disposition to do; it’s not even clear what this means. Anyway, we can hold that some dispositions are categorically ungrounded without talking about pointing. A thing has a categorically ungrounded disposition when a certain conditional involving it is true (maybe a counterfactual conditional, maybe a conditional probability—the details aren’t important here), and the conditional either has no basis in anything, or has a basis only in other conditionals. When something with a categorically ungrounded disposition fails to manifest the disposition, that just means that the antecedent of the conditional is unsatisfied. In general, a statement of the form, “if it were the case that p , it would be the case that q ,” or “the probability that q , given that p , is high” can be true, even when it’s false that p . There’s no commitment to Meinongian metaphysics here.

Toby Handfield suggests that Armstrong’s real reason for favoring categoricism isn’t so much to avoid Meinongian metaphysics, as to avoid the implication that which dispositions things have in our world depends on how things are in other possible worlds.¹⁸

However, as Handfield points out, the implication that which dispositions exist in our world depends on how things are in other possible worlds isn’t unique to views in which dispositions don’t require categorical bases. Given the standard analysis of counterfactual conditionals in terms of similarities among possible worlds, any theory of dispositions on which the existence of a disposition entails the truth of a counterfactual conditional implies that which dispositions exist in our world depends on how things are in other possible worlds. This would appear to include every theory of dispositions that has any hope of success.

Furthermore, as Handfield and others have argued, Armstrong’s own theory implies that which dispositions exist in our world depends on how things are in other possible worlds. Armstrong analyzes dispositions in terms of the necessitation of one property (like being shattered) by another property (like being a forcibly struck glass panel). If this necessitation relation is merely contingent, it fails to distinguish regularities due to dispositions (e.g., the regular conjunction of window-shattering events with rock-striking-window events) from mere accidental regularities. So the relation must be one of logical or metaphysical necessity. But then whether it actually holds between two

¹⁷ (Armstrong, 1997, p. 79).

¹⁸ (Handfield, 2005, pp. 452–456).

properties depends on how things are in all possible worlds, including worlds other than our own.¹⁹

Smith's and Stoljar's argument for categoricism

A different argument for categoricism comes from Michael Smith and Daniel Stoljar.²⁰ According to them, categoricism follows from a plausible analysis of statements of the form

x is disposed to verb in circumstance C at possible world w .

as equivalent to:

x verbs in all the possible worlds most similar to w , among those worlds in which circumstance C holds.

If this analysis is correct, it's impossible for something to have a disposition except in virtue of some further feature of the world that makes it more similar to some C-worlds than others. Smith and Stoljar take this to show that "if the world is a certain way dispositionally it must also be a certain way in and of itself: that is, a certain way non-dispositionally."²¹

But this is incorrect. Proponents of the view that there are categorically ungrounded dispositions can accept Smith's and Stoljar's analysis. They can hold that the worlds most similar to w among those in which C holds include worlds that are exactly the same as w in all categorical respects, differing from w only in what dispositions exist in them. The analysis of dispositions that Smith and Stoljar propose entails that all dispositions are grounded in *something*, but it doesn't entail that all (or any) dispositions are grounded in something besides further dispositions.

To relate this back to the issue at hand, Smith's and Stoljar's analysis doesn't require us to say that experience-causing powers are grounded in categorical features of what has the powers. Their analysis is consistent with saying that a thing's experience-causing powers are grounded, if at all, in further experience-causing powers of that thing. For example, their analysis is consistent with saying that a red object's power to cause phenomenally red experiences is grounded in the object's power to cause experiences as of a certain surface microstructure.

There's a related analysis of " x is disposed to verb in circumstance C at possible world w " that, if correct, really would threaten the view that there can be ungrounded modalities. According to this related analysis, the statement that x is disposed to verb in C at w is equivalent to: " x verbs in all the possible worlds most similar to w in *categorical* (e.g., non-dispositional) respects, among those worlds in which

¹⁹ For a full development of this *tu quoque* against Armstrong, see (Handfield, 2005, pp. 456–458) and Bird (2005).

²⁰ (Stoljar and Smith, 1998, pp. 90–99).

²¹ (Stoljar and Smith, 1998, p. 87).

circumstance C holds.” Unlike the earlier analysis, this one does conflict with the view that there could be categorically ungrounded dispositions.²²

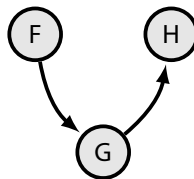
It’s question-begging to argue for categoricism by appealing to this new analysis of dispositions. A friend of categorically ungrounded dispositions should simply reject the analysis, as incompatible with the intuition that two worlds could duplicate one another in their non-dispositional features, yet differ dispositionally, as in the case of the actual world and a categorically indistinguishable world in which radon has a shorter half-life than it has in the actual world.

Goff’s argument for categoricism

Philip Goff argues for categoricism as follows:

Why can’t the manifestation of a given causal power be another causal power? The problem is that if the manifestation of causal power F is itself a causal power—call it “G”—then we can only understand the nature of G by understanding its manifestation—call it “H.” If H is also a causal power, then we can understand its nature only by understanding its manifestation—call it “I”—and so on ad infinitum. Unless at some point we find a manifestation that is not itself a causal power, we will never reach an adequate specification of the nature of F.²³

The argument here is not that we have to accept categoricism to avoid a vicious regress: as Goff acknowledges, opponents of categoricism can cut off a regress, by defining powers and dispositions in terms of the pattern of their causal relationships.²⁴ If different powers and dispositions in a causal network stand in different patterns of causal relations to other elements of the network, we can define each power or disposition in terms of its place in the network. For example, in a world consisting of a power F to cause a power G which is a power to cause H, we can define F as that which nothing has the power to cause, G as that which something has the power to cause and that has the power to cause something, and H as that which G has the power to cause:



The problem, rather, is supposed to be that a description of things in purely causal or structural terms never really gets off the ground:

²² See (Stoljar and Smith, 1998, pp. 96–99), where Smith and Stoljar argue that such an analysis is justified by the alleged fact that any difference or similarity between two possible worlds must be a difference or similarity in the worlds’ non-dispositional features.

²³ (Goff, 2017, pp. 137–138).

²⁴ (Goff, 2017, pp. 138–139).

It is certainly true that a causal power stands in a pattern of causal relationships to other properties, and perhaps we can uniquely pick out any actual causal power in terms of its pattern of causal relationships. However, to describe such a pattern is not to specify the essence of a causal power. To have a causal power is to be disposed to bring about some change in the world, to make a difference. When I ask what a causal power is, I want to know what change it brings about in the world: what property it gives rise to. And I learn what change F brings about in the world when I understand the nature of its manifestation G. But so long as we are restricted to causal predicates, an explanation of G's nature is continuously deferred and never given.²⁵

There are two things to say in response to this.

First, even if we set aside powers to cause experiences, and restrict ourselves to an ontology fully describable in non-experiential terms, Goff's argument is question-begging. If we ask what properties a causal power gives rise to, anti-categoricalists can answer: "further causal powers." Only if a thing's nature can't be exhausted by its causal powers is a characterization of the thing's properties in terms of causal powers alone not adequate. In reply to this, Goff says that

by definition a causal power is something that gives rise to a certain property, and hence to understand what a causal power is, we need to understand the nature of the property it gives rise to.²⁶

Structuralists will reply that the property's nature is to dispose whatever has it to have certain causal-structural effects. To insist that there must be more to a property's nature than this would be to beg the question against the structuralists.

Second, even if Goff's argument showed that it was impossible to give a complete description of the physical world in purely causal or structural terms, that wouldn't be enough to show that we have to attribute categorical natures to physical things in order to completely describe the physical world. Even if we grant that we can't give a complete description of the physical world as long as we restrict ourselves to a vocabulary consisting of mathematical terms and the verb "to cause," it doesn't follow that we can't give a complete description of the physical world if we help ourselves to terms referring to experience-causing powers, or potentials for experience. But we can use such terms without attributing any categorical features to physical things. At least, panpsychists have given us no reason to think otherwise.

A direct appeal to intuition

We've considered and rejected three arguments for the claim that physical things must have categorical natures. Some panpsychists contend that categoricalism is just intuitively true, regardless of whether there's any sound, non-question-begging argument for it. This is Goff's view:

²⁵ (Goff, 2017, p. 139).

²⁶ (Goff, 2017, p. 139).

[T]here is a basic intuition that causal powers are too *metaphysically thin* to constitute the complete nature of fundamental concrete objects. A causal power concerns how its bearer points toward other entities and toward its own non-actual but potential manifestation in reaction to those entities. But, intuitively, fundamental objects must also have a *manifest nature*: a nature that does not consist in such shadowy pointing, but consists in how the object is *in and of itself*. This view is commonly expressed with the analogy that a world of pure powers is like a world in which things are continuously packing their bags for a journey that is never taken: objects continuously change their potentialities, but those potentialities never result in anything *actual*.²⁷

Here we need to ask what Goff means by “a world of pure powers.” If he means a world consisting of nothing but powers to produce further powers, then he’s probably right that there is a gut intuition that the physical world is not a world of pure powers. But a world might consist of nothing but powers, some of which are powers to cause experiences, and if such a world counts as a world of pure powers, then there is not, I think, a gut intuition that the physical world isn’t a world of pure powers: the idea of a world consisting of nothing but powers to produce experiences doesn’t induce the conceptual vertigo that comes with the idea of a world consisting of nothing but powers to produce further powers.

5 The abductive argument

Earlier, I distinguished weak panpsychism, according to which all physical things have experiential features, from strong panpsychism, according to which physical things are nothing but experiential entities. One way to argue for strong panpsychism is to argue for weak panpsychism, and then infer the truth of strong panpsychism as the best explanation of the truth of weak panpsychism. Call this the *abductive argument* for strong panpsychism:

- A1 Weak panpsychism is true: conscious experience is ubiquitous in the physical world.
- A2 The best explanation of this fact is that physical phenomena are nothing but experiential entities.
- A3 So, physical phenomena are nothing but experiential entities.

The literature contains few explicit statements of this argument.²⁸ More often, panpsychists offer an argument for A1, and then conclude A3. Charitably interpreted, this inference makes an implicit appeal to A2; in any event, strong panpsychists need A2 to get from the arguments for weak panpsychism to the strong panpsychist conclusion.

²⁷ (Goff, 2017, p. 140). See also (Russell, 1927/1992, 325), (Eddington, 1929, p. 262), (Hartshorne, 1946, p. 413), (Foster, 1993, p. 295), (Adams, 2007, p. 40), (Strawson, 2008, p. 20), and (Chalmers, 2017, p. 26).

²⁸ Exceptions are Galen Strawson and Philip Goff, who explicitly invoke Occam’s Razor in this context: see Strawson (2003, pp. 75–76) and Goff (2017, pp. 169–171).

My criticism of the abductive argument will focus on A2, but it's worth considering the arguments panpsychists give in support of A1, if only to make it clear that those arguments support at most only weak rather than strong panpsychism.

Arguments for weak panpsychism

One argument for weak panpsychism, due to Eddington, goes as follows.²⁹ I know from own case that some of my physical states have phenomenal properties. For example, from a combination of introspection and a basic knowledge of how the human body works, I know that some of my brain states have a conscious quality of painfulness, that others have phenomenal color qualities, etc. Nothing about these brain states appears to explain why they have the conscious qualities they do, or any conscious qualities. The brain states differ from other physical states in many ways, but none that suggests that the brain states rather than the other states have conscious qualities. Whatever physical features distinguish the brain states from other physical states, and whatever physical roles the brain states play in the systems they occur in, there's no evident reason why states with those physical features and roles should have conscious qualities, and states with different physical features or roles should not. If it weren't for the correlations between my own conscious experiences and some of my own physical states, it would never occur to me that any physical states were accompanied by conscious experience.

From here I can go either of two directions.

On the one hand, since I only ever find evidence of consciousness in conjunction with certain kinds of brain states, I might infer that consciousness occurs only in conjunction with such states, despite the states not differing from other physical states in any way that suggests that they're conscious.

On the other hand, from the fact that my brain states don't differ from other physical states in any way that suggests that the brain states are conscious, I might infer that *not* only such brain states, but *all* physical states are conscious, and account for the fact that I only ever find direct evidence of consciousness in conjunction with certain of my brain states as due to those brain states happening to be the states that constitute *my* conscious mental life.

According to Eddington, the second hypothesis is more plausible. Thus we have the following argument for the claim that consciousness is ubiquitous in the physical world:

- E1 The physical states of my body that have conscious qualities don't differ from other physical phenomena in any way that would explain why the former but not the latter would have conscious qualities.
- E2 If the physical states of my body that have conscious qualities don't differ from other physical phenomena in any way that would explain why the former but not the latter would have conscious qualities, then it's reasonable to think that all physical phenomena have conscious qualities.
- E3 So, it's reasonable to think that all physical phenomena have conscious qualities.

²⁹ See Eddington (1929, pp. 258–260) and Strawson (2008, pp. 57–59).

Both premises of this argument are controversial,³⁰ but the point I want to emphasize is that the argument shows, at most, that we should accept weak panpsychism. It doesn't show that we should accept strong panpsychism. One can accept the conclusion of Eddington's argument without denying that physical phenomena have non-conscious qualities alongside their conscious qualities, or that these non-conscious qualities are at least as essential to the physical phenomena that have them as their (alleged) conscious qualities.

A second argument in support of weak panpsychism, originally due to Thomas Nagel, appeals to the idea that complex conscious systems must derive their conscious qualities from the systems' simple constituents, rather than such qualities emerging spontaneously at a higher level of organizational complexity.³¹ More precisely:

- N1 Complex physical entities with conscious qualities (e.g., various brain states) have those qualities in virtue of the conscious qualities of less complex physical components of those complex entities.
- N2 Every physical entity consists of fundamental (non-complex) physical entities which do not themselves consist of simpler entities.
- N3 So, at least some of the world's fundamental physical entities have conscious qualities. (from N1, N2)
- N4 If some of the world's fundamental physical entities have conscious qualities, it's reasonable to think that all the world's fundamental physical entities have conscious qualities.
- N5 So, it's reasonable to think that all the world's fundamental physical entities have conscious qualities.

The premises of this argument, especially N1, are controversial,³² but the point I want to emphasize is that, like Eddington's argument, this one at most supports weak panpsychism. The conclusion of the argument is consistent with the claim that fundamental physical entities have non-conscious qualities alongside their conscious qualities, and that these non-conscious qualities are at least as essential to the fundamental physical phenomena that have them as their (alleged) conscious qualities.

³⁰ According to some materialists, E1 is false, since the neural correlates of my experiences *do* differ from other physical phenomena in ways that explain why they have conscious qualities but other physical phenomena (like digestive states or meteorological states) do not; see, e.g., Armstrong (1968), Lewis (1972), and Jackson (1994). Panpsychists argue that we have to accept E2 on pain of saying that it's just a brute, inexplicable fact that some physical phenomena but not others come with conscious qualities. However, it's unclear that it's less plausible to think that this fact is brute and inexplicable than to suppose that things like quarks are conscious.

³¹ See Nagel (1979) and Strawson (2006, pp. 60–67).

³² N1 is a "no emergence" claim that many mind-body dualists deny; it's also unclear that emergentism, whatever its demerits, is less attractive than panpsychism: see Stephan (2017). N2 says, in effect, that the physical world has a bottom mereological level; this seems plausible, though it's not obviously true. The idea behind N4 is that it's reasonable to suppose that there's no difference in kind between our own fundamental physical constituents and other fundamental physical entities; Barry Dainton challenges this claim in Dainton (2021).

The abductive premise

So far, we've considered two arguments for the first premise of the Abductive Argument for strong panpsychism. Whether the two arguments succeed is controversial, but let's assume they do. We still have to consider the second premise of the Abductive Argument, that the best explanation of the ubiquity of consciousness in the physical world is that physical phenomena are nothing but experiential entities. The argument for this claim is as follows:

- I1 Physical phenomena never occur except in the presence of experiential phenomena.
- I2 If ϕ s never occur except in the presence of ψ s, the best explanation for this is that ϕ s are nothing but ψ s, unless there's a strong independent reason to doubt this identity claim.
- I3 There is no strong independent reason to doubt that physical phenomena are nothing but experiential phenomena.
- I4 So, the best explanation of the fact that physical phenomena never occur except in the presence of conscious experiences is that physical phenomena just are experiential phenomena.

I1 follows from weak panpsychism, the arguments for which we've already considered.

I2 is a standard part of abductive arguments for identity claims. Barring some reason to suspect that Mark Twain is different from Samuel Clemens, the best explanation of the fact that Twain is never present except when Clemens is present is that Twain and Clemens are one and the same.

What about I3? On the face of it, this premise faces the same objections as the corresponding premise of the classic abductive argument for standard materialism.

The materialist argument is: conscious states never occur except in the presence of certain types of brain states; the best explanation for this is that conscious states just *are* such brain states, unless there's a strong independent reason to doubt this identification; there is no such reason; so, the best explanation of the fact that conscious states never occur except in the presence of certain types of brain states is that conscious states just are brain states.³³

A main objection to this argument is that our ability to imagine worlds physically identical to ours but devoid of consciousness is a strong independent reason to reject the identification of conscious states with brain states. This is the thrust of the much-discussed zombie argument.³⁴

- Z1 We can imagine a world physically indistinguishable from ours but devoid of consciousness.
- Z2 What we can imagine is metaphysically possible.
- Z3 So, a world physically indistinguishable from ours but devoid of consciousness is metaphysically possible.

³³ See Place (1956) and Smart (1959).

³⁴ See (Campbell, 1970, pp. 100–104), Kirk (1974), and (Chalmers, 1996, pp. 94–99).

If sound, this argument gives us a strong independent reason to doubt that conscious states are identical with brain states. It also gives us a strong independent reason to doubt that all physical entities are just experiential entities: if, as strong panpsychists hold, the physical entities that exist in our world are nothing but experiential entities, then any possible world that contains the same physical entities as our world also contains experiential entities (namely, the experiential entities that our world's physical entities ostensibly are). Yet, it seems there are possible worlds that have all our world's physical contents but no experience.³⁵

There are ways to try to resist the second premise of the zombie argument, but strong panpsychists have good reason to accept it. That's because a main motivation for strong panpsychism is to provide an alternative to materialist theories that try to analyze consciousness in non-experiential terms, and a main reason to desire an alternative to this kind of materialism is its vulnerability to the zombie argument, which relies on Z2 (or something much like it).³⁶

Instead, panpsychists object to Z1. They say that we don't know we can conceive of a world physically indistinguishable from ours but devoid of consciousness. We know (say the panpsychists) that we can conceive of a world that has all of the actual world's *structural* physical features but no consciousness, but (they say) we don't know that we can conceive of a world that has *all* of the actual world's physical features but no consciousness, since (they say) for all we know, the actual world's *non-structural* physical features include intrinsic experiential features of physical things.³⁷

My reply is that we do know we can conceive of a world that has all the actual world's physical features but no conscious experience, since (1) we know we can conceive of a world that has the same experience-causing powers as our world, but no conscious experience, and, (2) to imagine such a world is to imagine a world physically identical to ours but devoid of experience.

Panpsychists can't plausibly deny that we can conceive of an experienceless world that has all our world's experience-causing powers: we need only imagine that all the powers exist, but that none of them gets exercised. If panpsychists want to take issue with my reply, it can only be by arguing that conceiving of such a world is insufficient for conceiving of a world physically indistinguishable from ours.

The bone of contention is whether the physical facts about our world reduce to facts about our world's experience-causing powers or potentials; that is, whether some kind of noumenalism or phenomenalism is true. This is a large metaphysical question that I can't hope to settle here. Without pretending to mount a full defense of the view that our world's experiential powers or potentials fully determine its physical features, let me just try to convey why many have found such a view attractive. My hope is that this will be enough to persuade you that panpsychists need to present convincing reasons

³⁵ The first premise of the zombie argument is stronger than required for a modal argument against strong panpsychism. We could replace it with: *We can imagine a world that contains all the rocks that our world contains, but no consciousness*. Such a world is also impossible, according to strong panpsychists, since according to them actual rocks are made of consciousness.

³⁶ For refinements of Z2, see Chalmers (2002).

³⁷ See Stoljar (2001) (though Stoljar doesn't advocate panpsychism) and (Chalmers, 2017, pp. 28–29) (quoted below). In Stoljar's terms, the panpsychists' objection to Z1 is that it's true only on a "theory-based" conception of the physical, but not on an "object-based" conception of the physical.

to reject the view, if we are to accept that conceiving of a world identical to ours in its experience-causing powers is insufficient for conceiving of a world physically identical to ours. (In what follows I'll focus on noumenalism, though one could make the same points in terms of phenomenalism.)

Noumenalism gets support from the plausible and rather widely-held idea that physical reality is just whatever explains the so-called regularity of experience: the tendency for experience to exhibit the sort of intra- and inter-personal regularities that suggest to us that there is a physical world. This idea is central to abductive responses to external-world skepticism: we're justified in believing that something explains the regularities in experience (i.e., that it's not just a fluke or accident that these regularities exist); the physical world just is that which explains the regularities; so, we're justified in believing that there is a physical world.³⁸

One way for something to explain the regularities in experience is by exercising powers to cause experiences that exhibit those regularities. So, if it's sufficient for the existence of a physical world that something explains the regularities, it's sufficient for the existence of a physical world that something has suitable experience-causing powers.

There is a further case to be made for the claim that when it comes to the world's physical contents, it's the world's experience-causing powers that matter, and not the categorical nature, if any, of what has the powers (whether or not the alleged categorical nature is mental).

I take it we all believe that rocks exist, and that rocks are made of atoms. But suppose scientists discovered that the atomic theory of matter was wrong, and that rocks weren't made of atoms, but of something more akin to Aristotelian prime matter. Would we conclude that we were mistaken to believe that there were rocks? Would we conclude that there are not, in fact, any rocks in our world?

No. We'd conclude that we were mistaken about the *nature* of rocks, but not about their existence. If further scientific investigation revealed that rocks weren't made of either atoms or prime matter, but some hitherto unimagined sort of thing, that would again not lead us to doubt the existence of rocks. It would just lead us to revise our beliefs about what rocks are made of. If, finally, we were to learn that rocks are actually made of the sort of mental entities that panpsychists say they're made of, that also wouldn't shake our belief in the existence of rocks, but only cause us to revise our beliefs about their ultimate composition.

Why would our belief in rocks survive all these imagined revelations? I submit that it's because none of the revelations would cast any doubt on the existence of things with the power to give us the sort of experiences we typically have when perceiving rocks. Assuming, for the sake of argument, that physical things have categorical natures, it doesn't even seem relevant to the world's physical contents whether it's the *same* categorical natures they have from one moment to the next, or a constantly shifting series of natures: now atoms, now prime matter, now an unimagined something, now panpsychist micro-phenomenology. If we learn that the categorical natures are in a

³⁸ For the abductive argument against external world skepticism, see (Locke, 1694/1979, p. IV.xi), (Russell, 1912, p. 5), (Broad, 1925, pp. 140–220), (Mackie, 1976, pp. 662–669), (Jackson, 1977, pp. 141–151), Putnam (1982), Vogel (1990), (Davidson, 2001, p. 151), Vogel (2005), Chalmers (2010), and Huemer (2015).

constant state of flux, we'll still believe that the Rock of Gibraltar has existed for many years. All of this suggests that our belief in rocks is, at bottom, a belief in powers to cause suitable experiences. And this in turn suggests that by "the physical world," we mean something for which the existence of suitable experience-causing powers is sufficient.

I've argued that the abductive case for strong panpsychism assumes that in order to imagine a world that duplicates ours physically, it's not enough to imagine a world that duplicates ours in its experience-causing powers, and I've argued that panpsychists aren't entitled to this assumption. The same criticism applies to David Chalmers' "Hegelian" argument for panpsychism.³⁹ One premise of the Hegelian argument is that strong panpsychism is immune to the sort of modal or conceivability arguments that (according to Chalmers) undermine materialism. According to Chalmers,

It is plausible that when we typically conceive of zombies, we are really conceiving of structural zombies. We hold physical structure fixed, but we do not make any effort to hold quiddities fixed, since we have no idea what the quiddities are. This standard zombie intuition provides good reason to think that structural zombies are conceivable, but little reason to think that categorical zombies are conceivable. If this is right, adding the conceivability-possibility premise at best establishes the possibility of structural zombies but not of categorical zombies.⁴⁰

By "quiddities," Chalmers means "the fundamental categorical properties that play the fundamental roles specified in physics," or "the categorical bases of the microphysical dispositions characterized in physics."⁴¹ However, as argued above, we have no compelling reason to believe that there are any quiddities (in Chalmers' sense), since we have no compelling reason to think that microphysical dispositions or fundamental physical roles have categorical bases, or to think that we need to introduce anything more than experience-causing powers or propensities in order to complete physics' purely structural representation of the physical world.⁴²

6 Conclusion

Arguments for strong panpsychism rely on two claims (among others): (1) that physical phenomena have categorical natures, and, (2) that our world's experiential powers or potentials underdetermine its physical features. Unless we're confident that physical phenomena have categorical natures, we shouldn't be willing to ascribe quarks experiences in order to secure them categorical natures. If worlds identical in their experience-causing powers are physically identical, a world physically identical to ours could lack experience (due to none of its experience-causing powers being exer-

³⁹ (Chalmers, 2017, pp. 22–23, 24–30).

⁴⁰ (Chalmers, 2017, pp. 28–29).

⁴¹ (Chalmers, 2017, p. 26).

⁴² Curiously, Chalmers himself appears favor of a kind of noumenalism in Chalmers (2010): see esp. (Chalmers, 2010, p. 479), where he suggests that "as long as a hypothesis involves some reasonable explanation for the regularities in our experience, then it will not be a global skeptical hypothesis."

cised), in which case strong panpsychism is false, and therefore not the best explanation of anything.

In this paper, I've argued that we shouldn't take either of the stated claims for granted, and I've criticized panpsychists for failing to produce any sound, non-question-begging arguments in support of them. As long as this state of affairs persists, the case for strong panpsychism remains weak.⁴³

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