

HONORS THESIS

On Panpsychism

A Defense Against the Combination Problem

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According to panpsychism, all particles have experiences, and their experiences together - not just the brain and its functions - give rise to our ordinary conscious experiences such as seeing red or tasting vanilla. This view faces a notorious problem called "the combination problem". The problem maintains that experiences do not combine with one another, and, so, even if particles have experiences, these experiences do not combine to give rise to our experiences. My work aims explain away this problem. I propose that getting a clear understanding of the similarities between the panpsychist's proposal and the commitments of our physical inquiry will shed light on why there is no good reason for thinking that experiences cannot combine in the relevant ways.

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1. Introduction

It is quite uncontroversial that to have "conscious experience" or "experience", such as the feeling of what it is like to see red, feel pain, or taste vanilla ice-cream, a brain is necessary. But, still, a question about conscious experience remains unsettled. The question is: How could it be that the utterly non-conscious material parts of the brain could be put together so that their mere assembly yields conscious experience? In other words, how could the conscious, the felt, the sentient, derive from the unconscious, the unfeeling, the insentient?¹

Panpsychism has an answer to this question: the most basic building blocks of the world possess conscious properties. If these basic building blocks are quarks, then quarks have experiences. According to this view, it is not that conscious experience just somehow suddenly emerges from what is unconscious and insentient, but that conscious experience derives from what is already conscious. In short, it is the experiences of quarks - and not just the purely physical brain and the interaction of neurons within - that together give rise to the types of conscious experience that you and I have.

The idea of quarks with experience is hard to swallow for many. This is presumably because we see no evidence - for example, some kind of behavioral signs - of conscious life in a quark, or in other things composed of them. Nonetheless, for those in search for a plausible explanation of our conscious experience, if panpsychism can give a plausible explanation, the awkwardness of the view should not lead them to reject panpsychism.

There is, however, a problem that has been widely accepted by philosophers to challenge the explanatory work, not its awkwardness, of panpsychism as an account of conscious experience: the combination problem. According to this problem, we have reasons to believe that

¹ Cf. Coleman 2012

experiences cannot combine to give rise to further experiences. If the combination problem is right, then panpsychism is useless as an account of our conscious experiences; for panpsychism can only account for our conscious experiences if the experiences of quarks could combine in some way to yield our conscious experiences.

In this paper, I will argue that the combination problem does not provide sufficient reasons to abandon panpsychism as an account of conscious experience. It may impose questions to be explored, but, as we'll see, the combination problem does not pose an in principle reason to reject panpsychism as a plausible theory on conscious experience. Prior to getting into this discussion, I will explain why panpsychism is worthy of discussion at all. Then, I will consider the combination problem. Specifically, I will consider three versions of the problem - the quality combination problem, the structure combination problem, and the maximality combination problem - and explain that all versions fail to show that experiences cannot combine. Broadly, I propose that getting a clear understanding of the similarities between the panpsychist's proposal and the commitments of our physical inquiry sheds light on why there is no good reason for thinking that experience cannot combine in the relevant ways.

Before I begin, let me clarify and explain some terms that are helpful in framing the discussion.

2. Terms

2.1 Entities, Properties, and Facts²

2.1.1 Physical

To refer to the most basic physical building blocks, or the most fundamental physical entities, I will use, "microphysical entities". I will also assume, for simplicity, that these are quarks. When they are properly arranged, these entities give rise to all sorts of "macrophysical entities" such as water, air, rocks, and humans.

I will use, "microphysical properties" to refer to the physical properties such as energy and electric charge of quarks. To refer to the whatever physical properties that are less fundamental than microphysical properties, I will use, "macrophysical properties."

"Microphysical facts" will be used to refer to positive facts about the instantiation of microphysical properties, and I will use "Macrophysical facts" to refer to positive facts about the instantiation of macrophysical properties.

2.1.2 Phenomenality

To refer to conscious experience, I will use "phenomenality".

To refer to the properties that characterize what it's like to be a quark, I will use "microphenomenal properties", and to refer to the properties that characterize our ordinary experiences such as the what it's like to see red, feel pain and taste ice-cream, I will use "macrophenomenal properties".

To refer to the positive facts about microphenomenal properties, I will use, "microphenomenal facts", and to refer to the positive facts about macrophenomenal properties, I will use, "macrophenomenal facts"

² These terms, and explanations are largely due to David Chalmers (2013), and for further explanation see Chalmers 2013a, 2013b.

2.2 Grounding

To phrase the combination problem, I will use the notion of "grounding".³

Grounding is a notion used to characterize a *metaphysical* explanatory relation between less fundamental facts and more fundamental facts. The following example seems to get a handle of this idea. Consider the fact that a dog is grey and four legged. This fact is less fundamental than the fact that the dog is grey and the fact that the dog is four legged⁴, and these facts share a distinct relation, namely, that the less fundamental fact exists, necessarily, in virtue of the more fundamental facts. In short, we can describe this relation between more and less fundamental facts by saying that the more fundamental facts - the fact that the dog is grey and the fact that the dog is four legged - *ground* the less fundamental fact - the fact that a dog is grey and four legged.⁵

It should be noted that what is meant by some facts *grounding* the less fundamental facts is distinct from what is meant we say that some facts *cause* other facts to obtain. Causation and grounding are similar in that they are both asymmetric dependency relations - the effect is explained by the cause, but not the other way around. Similarly, the grounded is explained by what grounds but not the other way around. However, causation and grounding differ in that causation gives an explanation of how a fact has come to be *through time*, from the earlier to the later, while the grounding gives a metaphysical explanation to what less fundamental facts obtain in virtue of what other more fundamental facts obtain. For example, on the one hand, if we ask why there is a grey, four legged dog here, one could tell a causal story of what events lead the

³ Phrasing the combination problem in terms of grounding does not make the problem any easier to *solve*. The reformulation is an attempt at making the problem easier to *discuss* by using clearer terms. If the combination problem is really a problem, which it seems to have been given that many prominent philosophers (James 1895, Seager 1995, and Goff 2006, 2009 to name a few) have raised the problem, it should be a problem regardless of how we phrase it.

⁴ At least, in some accounts like Fine's (2012)

⁵ Kit Fine 2012

dog to be here, tracing all the way back to when the dog's sperm and a dog's egg met to cause the dog's DNA. On the other hand, one can give a *metaphysical* explanation to the same fact by explaining that it is grounded in the fact that certain fundamental particles are arranged in a certain way.⁶

Lastly, it must be noted that the grounding relation is distinct from the identity relation. In grounding, as opposed to identity, there is no attempt to reduce the macrophysical to microphysical by claiming that the macrophysical is nothing other and above the microphysical. In other words, the notion of grounding does not commit one to a reduction, where we understand reduction as an identity claim, say, whatever I am is reduced as identical to a bunch of quarks that have some properties. In contrast, the corresponding grounding relation would state that whatever I am is fully and metaphysically *explained* by microphenomenal facts, and it's not a just is claim. In short, whereas the identity relations are symmetrical relations, grounding relations are asymmetrical relations that respect the intuition that the less fundamental fact could be distinct from the more fundamental facts on which they are grounded.⁷

3. Motivations for Panpsychism.

Prior to discussing the combination problem, let me explain why one might be motivated to accept panpsychism as a plausible account of conscious experience, as this helps one to consider why it is important at all to attempt at defending panpsychism against the combination

⁶ Cf. Jonathan Schaffer 2012

⁷ Generally, the concept of emergence has to do with something *emerging* from another thing. I take it that emergence applies to facts at the non-fundamental level that are not fully grounded on facts at the fundamental level. To say that something *emerges* is to say that this something is ungrounded in the other thing from which it arises. That is, when a non-fundamental fact is not fully grounded in anything more fundamental, I will take it as emergent fact. I think that any fact, besides, perhaps, the most fundamental requires an explanation of what it is grounded in to be fully metaphysically explained. Simply speaking, I do not accept ungrounded things, and, extending this thought, I will assume that emergence is false.

problem. Philosophers such as Thomas Nagel (1979), Galen Strawson (2006), and Sam Coleman (2012, 2013), who have argued for panpsychism, begin by appealing to the implausibility of emergentism. However, one does not have to begin this way. We can reserve the discussion of emergentism for elsewhere⁸, and instead begin by accepting the "explanatory gap"⁹.

3.1 The Explanatory Gap

The idea of quarks with phenomenality is, as noted in the introduction, more or less counterintuitive. Given that we live in a world full of scientific discoveries where science continues to explain facts that were once mysterious in terms of other more fundamental physical facts, one might wonder why it is that we cannot expect science to do the same with phenomenal facts. Why bother committing to the strange idea that quarks have phenomenality? What reasons do we have to believe that facts about our phenomenality are not just amongst mysterious facts that science has yet to explain in terms of microphysical facts? Why can't we expect to learn what phenomenality is as we continue to expand our scientific knowledge?

An answer to this question can be offered by an appeal to what is known as the explanatory gap. To explain what this gap is and why it is believed to exist, I will briefly reconstruct David Chalmers's argument (1995) for the conclusion that we cannot explain conscious experience purely in terms of microphysical facts.

We may begin by dividing questions about consciousness into two sorts: what Chalmers (1995) has called, "the easy problems of consciousness" and "the hard problems of consciousness".

⁸ See footnote #7 for short explanation of emergentism.

⁹ The terms is due to Levine 1983 and Chalmers 1995

The Easy Problems of Consciousness

According to Chalmers, the easy problems of consciousness involve explaining aspects of consciousness such as "the ability to discriminate, categorize, and react to environmental stimuli; the integration of information by a cognitive system; the reportability of mental states; the ability of a system to access its own internal states; the deliberate control of behavior; and the difference between wakefulness and sleep."¹⁰ The common denominator of all of the items listed above is that each of them is a question about functions. That is, to fully explain them, we must specify a mechanism by which the functions are performed. Once the function is provided, the question has been answered. Science has been doing such work of providing this sort of explanation, and we can expect it to continue to do so. Thus, there is no in principle reason for thinking that the items listed above cannot be explained in terms of functions performed by purely physical systems. In short, the easy problems of consciousness are those that can be fully and directly explained in terms of computations or neural mechanisms. According to this line of thought, for example, we can reasonably expect science to, even if it hasn't yet, tell us exactly how we are able to read out loud. In order to understand how we can read out loud, all we need to do is dig deep in neuroscience so as to specify a neural mechanism that is responsible for the function of reading letters out loud- discriminating different shapes, categorizing capital and non-capital letters, producing certain sounds, and variously reacting to various combination of letters - and experiment many times to confirm that we have correctly specified the right mechanism.^{11 12}

¹⁰ David Chalmers 1995

¹¹ For further inquiry about what the easy problems are, consult "Facing Up to the Problem of Consciousness", Section 3, *Functional Explanation*.

¹² Let me note, though, that the mentioned above certainly are not "easy" problems of consciousness because they are actually easy questions to solve. It takes enormous amount of time, intellectual analysis, and painstaking experiments to discover the correct mechanism to which we can give an explanation.

The Hard Problems of Consciousness

Unlike the easy problems of consciousness, the hard problems of consciousness are not concerned with explaining how an organism performs functions. The hard problems require answers that go beyond the explanation of how things work. The main question of the problem is, as Chalmer's puts it, "*Why is the performance of these functions accompanied by experience?*" That is, why is it not the case that all these functions are performed without any phenomenality? (To oversimplify the problem for the sake of explanation) It seems conceptually coherent that a metal robot could perform any of the functions of the list above in very much the same way that a conscious human would without being accompanied by phenomenality. Science, it seems, provides us an excellent job in identifying the *correlates* of "P" phenomenality with "F" functions and making predictions that P will be accompanied by F; however, it does not tell us why or how P *is*. To claim that P is present when F happens is all that science can do, but the question of why P happens at all remains unsolved.

In other words, one can explain easy problems by offering facts about the microphysical properties and how they are arranged and interact over time so as to ground facts at the macrophysical level (i.e. reading out loud). But in the case of the hard problem, given that it's not the mechanism that we're trying to account for, we can't see what sorts of facts are going to ground, from the most fundamental level, the macrophenomenal facts. From this we can see the problem as giving rise to a gap, which is called the "explanatory gap". On one side of the gap we have functional explanations, and on the other side we have phenomenality. And the problem arises because it is hard to see how anything science can provide in terms of physical systems

and functional accounts could bridge this gap and account for phenomenality.¹³ Our question is how to metaphysically explain phenomenality if not by offering a functional account.

3.2 From the Explanatory Gap to Panpsychism

Let me explain (1) what motivates panpsychists to ascribe *phenomenality* to something, and (2) what motivates them to ascribe it to quarks, not something less fundamental than quarks.

The reason panpsychists ascribe phenomenality to an something to bridge the gap can be explained by comparing panpsychism to physicalism. Broadly speaking, physicalists argue that some kinds of microphysical facts, probably those that ground a brain, are *necessary* to ground macrophenomenal facts. Panpsychists agree. Further, physicalists also argue that such kinds of microphysical facts are sufficient to ground macrophenomenal facts. What does this mean? It means that physicalists either reject the explanatory gap, or accept the explanatory gap, but only to the extent that this gap is an epistemic gap.¹⁴ Panpsychists disagree. Panpsychists believe that the explanatory gap is a metaphysical gap: the claim is not just that we cannot *understand* how microphysical facts ground macrophenomenal facts but rather that microphysical facts *cannot* ground macrophenomenal facts. We will never understand even with complete knowledge of physics why it is that the functions of our brain or mere arrangements of utterly non-phenomenal

¹³ Someone might insist that we are simply mistaken about the existence of hard problems of consciousness in the same way the people who were called vitalists mistakenly claimed that life could not be explained in purely physical terms. Vitalists argued that no physical explanation could be provided for life, and that this leads us to conclude that vital spirits were responsible for life. But, in time, as our scientific knowledge progressed, physical account of life was provided. Perhaps, advocates the hard problems of consciousness are similar to vitalists and the hard problems of consciousness will also go away as our knowledge of physics expands. However, vital spirits and hard problems of consciousness are disanalogous in important ways, as Chalmers (1995) has pointed out. What motivated vitalism was the doubt that we could specify what mechanism produces the *functions* associated life, such as reproduction and adaptation. Both vitalists and non-vitalists agreed that, at least on the conceptual level, explanation of functions was needed. Vitalists doubted that any physical process could do the job, but we found that we could give a physical account of life's relevant functions. In contrast, answering the hard problems of consciousness is indifferent to functional explanation of all sorts. Easy problems of consciousness and hard problems of consciousness differ at a conceptual level. Vitalists' claims belonged to easy problems about the world, and just the fact that physical explanations succeed in overcoming a complicated easy problem does not give any reason for thinking that hard problems will go away in the same way.

¹⁴ Cf. Block & Stalnaker 1999; Strawson 2006

material parts of the brain could be put together so that their mere assembly yields macrophenomenal properties. For this, ascribing experience to something that is more fundamental than our brain is the least that is necessary to give a satisfactory metaphysical explanation of experience.¹⁵

Now, let me explain why panpsychists ascribe phenomenality to *quarks*, and not something less fundamental than quarks. First, notice what happens if one decides to posit phenomenality at a non-fundamental level. It would mean that the phenomenality would again somehow have to be grounded in something utterly non-phenomenal. In other words, the positing of phenomenality at a non-fundamental level creates a new explanatory gap that is just as serious as the one we had before. In this case, the gap is between this less fundamental level and the most fundamental level. Whereas positing phenomenality at the most fundamental level *is* going to close the explanatory gap, positing phenomenality anywhere besides this level is going to simply shift the gap to a lower level. So, panpsychists have no better option than to posit phenomenality to quarks, that is, at the lowest level.

Granting that our phenomenality cannot be metaphysically explained in terms of facts specifying the functioning of a particular mechanism, panpsychism holds that we can give a metaphysical explanation of our phenomenality by positing microphenomenality. That is, the explanatory gap can be bridged by positing phenomenality to quarks.

4. The Combination Problem

Though many philosophers- such as Thomas Nagel (1979), David Chalmers (2013), Galen Strawson (2006), Sam Coleman (2012), Philip Goff (2009), and William Seager (2010), to

¹⁵ To learn more on why experiences have to be grounded in conscious, not physical, see, Nagel 1974 and Strawson 2006.

name a few - have been motivated to reject physicalism for the reasons along the lines of what I have explained in section three, the combination problem has often been regarded as reasons or motivations to reject panpsychism. If the combination problem is right, then it must be that panpsychism as an account of conscious experience is outweighed by the trouble that combination problem poses against panpsychism as an account for macrophenomenality.

When William Seager (1995) named the problem, he said that panpsychism has "the problem of explaining how complex conscious states emerge from the primitive mental states ascribed [by the panpsychists] to... fundamental entities." More specifically, in our terms, the problem is this: how do microphenomenal facts ground macrophenomenal facts? The combination problem is built around the idea that there is a problem in thinking that microphenomenal facts ground macrophenomenal facts. If this were so then one could not explain macrophenomenality by positing phenomenality to quarks. But then, the motivation to accept panpsychism, an otherwise counterintuitive view, would have been undermined.

What exactly is the reason for thinking that there is such a problem? In this section, I'm going to present three versions of the combination problem, each of which focuses on an aspect of phenomenality: the quality combination problem, the structure combination problem,¹⁶ and the maximality combination problem. In doing so, I will explain why the combination problem might have been thought as posing a sound challenge against panpsychism.

4.1 The Quality Combination Problem

If panpsychism can explain phenomenality, it must be that microphenomenal facts have some kind of *qualitative* aspects that metaphysically explain or ground the qualitative aspects of the macrophenomenal facts. One version of the combination problem, which David Chalmers

¹⁶ The name "quality combination problem" and "the structure combination problem" are due to Chalmers (2013b)

has called "the quality combination problem" and that which Barry Dainton (2011) has called "the derivation problem", takes the following form: how could the qualitative aspects of microphenomenal facts ground the qualitative aspects of macrophenomenal facts? There are indefinite (potentially infinite) amount of macrophenomenal qualities - all sorts of phenomenal colors, shapes, sounds, smells, and tastes - and there are, presumably, limited amount of microphenomenal qualities of quarks. Could the limited phenomenal qualities of quarks give us our indefinably rich phenomenal qualities? Chalmers (2013a, 2013b) has called the version of the combination problem that presses panpsychism against answering this question "the palette problem".¹⁷ If we have only a few colors on our palette, there are only so many colors we can get from that palette. Likewise, with only a limited amount of microphenomenal qualities of quarks, it is hard to see how we can have such a rich amount of macrophenomenal qualities.

Panpsychism as a theory that attempts to fully account for our phenomenality, then, would fail - it would leave us with no metaphysical account for some features of macrophenomenal properties.

4.2 The Structure Combination Problem¹⁸

The structure combination problem presses panpsychism against the structural mismatch between macrophysical facts and macrophenomenal facts. On the one hand, there is a macrophenomenal structure: macrophenomenal facts have a very rich and geometrically coherent structure, involving spatial structure of visual and auditory fields. For example, when one watches a blockbuster movie, there is the visual structure of what is projected on the screen - flames, cars, and people flying - and the auditory structure of what is played on the speakers, the roaring of the exploding engine, gunshots, and so on. On the other hand, there is the

¹⁷ Chalmers identifies that there is the palette problem, but it should be noted that he does not endorse this problem.

¹⁸ This version of the problem is inspired by Maxwell 1979 and Lockwood 1989 as noted in Chalmers 2013b.

macrophysical structure - for instance, the geometric structures of a brain characterized by physics. If panpsychism is correct, the same quarks have to ground these distinct structures of the physical and the phenomenal at the same time and place. However, the structural mismatch between the structure of the phenomenal and the structure of the phenomenal seems to be too distinct for the same quarks to do so. To have the very same quarks “multitask” in this way might turn out to be impossible: quarks could either ground macrophenomenal facts or macrophysical facts, but not both. If so, this would seem like a good reason to abandon panpsychism as a plausible account of conscious experience.

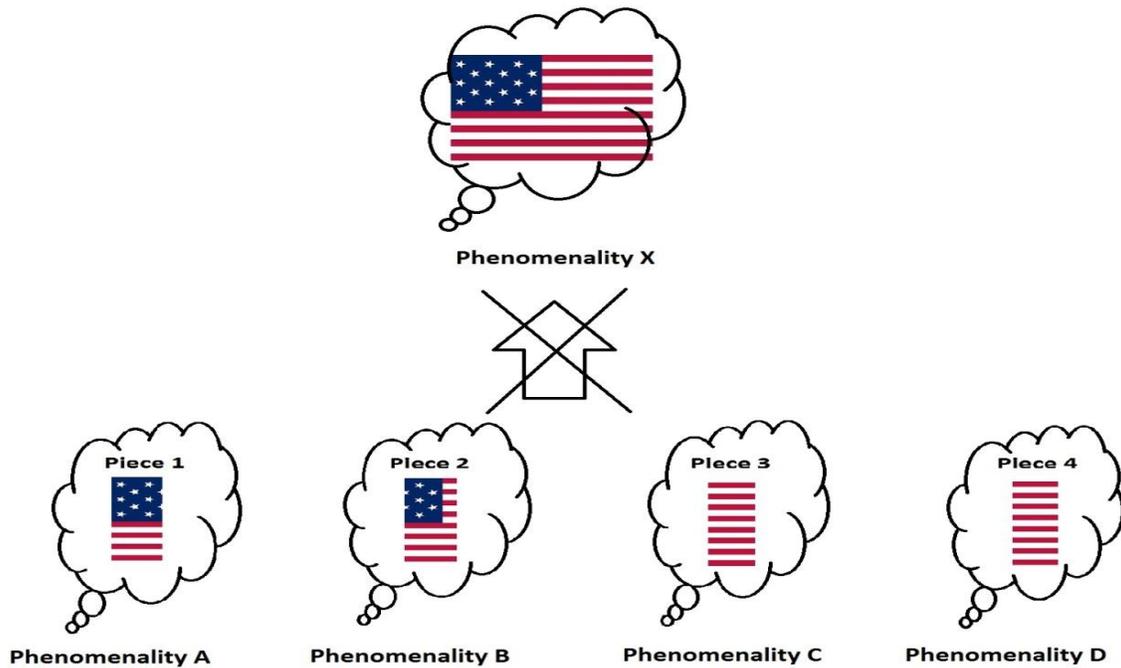
4.3 The Maximality Combination Problem

Let me now explain a version of the problem that I will call "the maximal combination problem".¹⁹ This version of the combination problem begins precisely with the observation that William James (1895) made initially against panpsychism. Although some philosophers (such as Dainton (2011), Maxwell (1979), and Stoljar (2001)) may disagree, many philosophers²⁰ who have taken panpsychism seriously as an account for conscious experience have identified this version of the combination problem as the most challenging for panpsychists to respond to. Let's turn to consider a thought experiment that closely resembles the observation that James had made against the possibility that experience can ground further phenomenality.

¹⁹ This problem is very close to what is commonly known as the subject-sum combination problem (Chalmers 2013a, b, Coleman 2013, Goff 2009, Seager 2010); however, I rather stay away from the term "subject" in this paper. Brief explanation for why I want to stay away is in footnote #23.

²⁰ Almost all that I have cited and referred to in this paper, but it particular Chalmers 2013a,b, Coleman 2012, Goff 2009, and Seager 2010.

The situation could be illustrated by means of the following diagram.



The American Flag Puzzle

Suppose that there is a four-piece puzzle that upon completion looks like the American Flag. Four people are each provided a piece of the puzzle and asked to look at their piece. Consider the experience that each of these subjects have when seeing their piece of the puzzle. Granted that none of the subjects have completed this puzzle before, these experiences will not ground an experience of the finished puzzle, or, the experience of what it's like to see a complete American flag puzzle.²¹

Say that Abbey, Brad, Christina and Derek each gets a piece of the puzzle, 1, 2, 3, and 4, respectively, and that from this they each have phenomenality A, B, C, and D, respectively. Do phenomenality A, B, C, and D give rise to phenomenality X? That is, do A, B, C, and D ground X? Surely not. There is no X grounded in A, B, C, D.

²¹ James made the following observation: "Take a sentence of a dozen words, and take twelve men and tell to each one word. Then stand the men in a row or jam them in a bunch, and let each think of his word as intently as he will; nowhere will there be a consciousness of the whole sentence." This quotation could mislead the reader in thinking that the problem is about intentionality and not about phenomenality. Intentionality is not something that the version of panpsychism I defend in this paper tries to explain.

To capture this intuition let's say that phenomenal facts are maximal.²² If something is maximal, it does not ground any further thing(s). Phenomenal facts are maximal exactly in this sense: they do not ground any further facts.²³

What happens to panpsychism given that phenomenal facts are maximal? Panpsychism loses its crucial appeal. Recall that, as an account of our phenomenality, panpsychism's appeal is that it can explain our ordinary experiences, say, of vanilla ice-cream or redness, in terms of the microphenomenal facts. However, given that phenomenal facts are maximal, ascribing phenomenality to quarks becomes useless; it cannot play the role it was expected to play. In short, the panpsychists' project of positing microphenomenal properties to fundamental physical entities to account for macrophenomenal properties is a failure; the consequence of the positing could be millions of microphenomenal properties that have nothing to do with the existence of even a single macrophenomenal properties.

5. Explaining the Combination Problem Away

I have thus far explained some of the ways the combination problem has been formulated against panpsychism's effort to provide a full metaphysical explanation of our phenomenality.

²² The term "maximal" has been used by Theodore Sider (2001) to argue against a theory about consciousness, although not particularly against or for panpsychism. What I mean by maximal is not what Sider meant, and this is not the place to discuss the difference.

²³ Let me remark that many philosophers who took James's observation to be a serious threat to panpsychism have explained or interpreted that the reason this observation is so strong lies in the fact that we are strongly pulled to believe that experience entails experiencers (Strawson 2006, Chalmers 2013a,b, Goff 2009, Coleman 2013, and Seager 2010). That is, experience always requires that there is a subject to have it, and, according to this interpretation, positing experience to quarks would make quarks subjects, meaning that subjects would have to ground subjects. But this is absurd since there is no further distinct subject in virtue of having a number of subjects! As we have seen in the puzzle case, there is no further subject or experience of a whole, complete puzzle grounded in their being a dozen experiences, each with an experience of a piece of the puzzle. I assume that we need not get into discussions of what a subject means, and whether experiences necessarily entail experiencers. Let me simply note that it seems to me that experiences could be without experiencers given that I can wake up to a pain that certainly existed without my being aware of it previous to waking up (Coleman 2012).

Suppose, now, that you are a panpsychist for the reasons I have explained in section three. You are committed to the explanatory gap, and find it reasonable that positing phenomenality at the most fundamental level can metaphysically explain our phenomenality. Should you abandon panpsychism because of the combination problem? That is, does the weight of the challenge each version of this problem poses against panpsychism enough to make you, a committed panpsychist, dismiss the view? I will argue that none poses such a challenge. More particularly, I propose that getting a clear understanding of the similarities between the panpsychist's proposal and the commitments of our physical inquiry sheds light on why there is no good reason for thinking that conscious experience cannot combine in the relevant ways. That is, we have no good reasons for thinking that, once microphenomenal properties have been added to our metaphysical picture, macrophenomenal facts cannot be grounded in the most fundamental facts.

5.1 Explaining Away the Quality Combination Problem

Let's begin by considering the first version I have explained: the quality combination problem. One easy way out from this problem for a panpsychist would be to ascribe all sorts of phenomenal qualities to quarks. Whatever phenomenal qualities exist at our level must exist, a panpsychist could say, at the micro level. However, it is not compulsory that a panpsychist adopt this strategy to defend her claim. It would make her ontology too generous.

One can explain away the quality combination problem without having to attribute so many qualities to quarks. Instead, one can appeal to the kind of commitments we make in our physical inquiry. For example, we believe the *microphysical* qualities of quarks to be limited, while we also believe that they are sufficient to ground all sorts of complex *macrophysical* qualities of less fundamental things. In this case, we accept that the microphysical facts such as "spin" and "electrical charge" ground all sorts of macrophysical qualities. If we are not only

willing to grant, but hold the firm belief that this is possible, why shouldn't we be willing to grant that the relatively plain qualitative features of microphenomenal facts ground the complex macrophenomenal facts? Certainly, the quality combination problem perhaps is an interesting one, worth being curious about. It is marvelous how something so simple can ground the complex! Nevertheless, the problem does not give enough support to the idea that the rich and complex qualitative features of our phenomenality are *not*, or *cannot be* grounded in relatively few qualitative features of microphenomenal facts. It seems to me that it only tells us that there is room for research on panpsychist's grounds, just as there is room for research for scientists to explain the wide variety of less fundamental macrophysical properties in terms of the fewer and most fundamental microphysical properties.

5.2 Explaining Away the Structural Combination Problem

To explain away the structural combination problem, it seems to me that we can begin by deflating the intuition that there is in fact a daunting structural mismatch between the phenomenal and physical. Consider how unreliable our judgments are when it comes to the structure of our experience. Surely we are correct in judging that our experiences have some kind of a structure. However, there have been numerous empirical studies that confirm that we are terrible at introspection, that is, judging the features about our experience.²⁴ Perhaps, then, we are wrong in thinking that phenomenal structures are so different from the physical structures to the extent that facts involving quarks cannot ground them both. This would mean then that we should not find it *impossible* that quarks could perform this "multitask". But if this is so, the structural combination problem hasn't presented us with a problem that could not be solved by panpsychist's ground -perhaps, panpsychists can also appeal to phenomenal properties to explain

²⁴ Cf. Chabris and Daniel Simons 2010; Schwitzgebel 2011.

some of the mismatch. That is, some structure can be explained by appeal to the configurations of physical properties and some other structural features can be explained by appealing to physical properties. Until we have figured out what the structure of the phenomenal field is and have been shown that it is incompatible with the physical structure of the brain, we are not given a reason to reject panpsychism. In other words, panpsychist has to room to defend her position.²⁵

If the response is found to be unsatisfactory because it does not conclusively show that there is a not a structural mismatch, there is weaker, but nevertheless promising way to respond to this problem. The response is similar to the second response I have given to the quality combination problem. Granting that there might be an incompatible structural mismatch between the phenomenal and physical, a panpsychist can appeal to the fact that the structural mismatch is not an exclusive problem for panpsychism. It is a problem that applies generally to all theories that attempt to account for conscious experience, whether in panpsychists' terms, or in terms of purely microphysical facts²⁶, and it is also a problem which none of these theories have provided a good explanation for. In short, a panpsychist can appeal to the fact that this problem has not motivated philosophers to retract from the views that they are committed to, and, so, it should not particularly motivate panpsychists to retract from panpsychism. That is, if you're a panpsychist who finds the explanatory gap extremely troublesome for physicalists, the structural mismatch combination problem seems to provide less than sufficient reason for you to abandon panpsychism. If you step away from panpsychism in order to avoid this problem, you will end up

²⁵ This particular way of getting around the structural mismatch is largely owed to Carla Merino-Rajme, my advisor for this thesis, and the inspiration for the unreliability of introspection has come from Eric Schwitzgebel (2011) argument - although his argument is not particularly on the reliability of the appearance of phenomenal structure, I find this idea applicable to the structural mismatch.

²⁶ The problem does not apply to eliminativism, but if one is committed to this view, one would not try to account for macrophenomenal facts to begin with, since there is none.

facing the very same problem you left it for, namely, how microphysical facts could ground macrophysical structure, and ground macrophenomenal facts.

5.3 Explaining Away the Maximality Combination problem.

I will now try to explain away the maximality combination problem.²⁷ I will argue that it is a mistake to claim that microphenomenal facts are maximal on the basis that macrophenomenal facts are maximal. Our intuition about phenomenality, that phenomenality is maximal, is misleading when what we want to think of is the microphenomenal properties of quarks.

First, consider again the puzzle case. Just like James and many others, I don't think that there is anything wrong with the observation that having a group of people, each having a phenomenality of what it's like to see a piece of the puzzle, cannot ground a further phenomenal fact. Unlike them, however, I think that this observation is incompatible with panpsychism, whose aim is to explain macrophenomenal properties by positing microphenomenal properties.

What is problematic about the observation is the way it is taken to be indicative of an essential feature of phenomenality. We take it to be indicative of the nature of phenomenality, and thus, that phenomenality is necessarily maximal. I think this is too quick. Let me show why I think this is too quick by means of an analogy with the physical case.

Consider water and oil - both of which are macrophysical entities. Now, suppose we have .5L of water and .5L of oil before us. Pour both of them in a small box and shake the box. Does the endeavor make it so that the water and oil ground a third macrophysical fact? The result of this endeavor is different from what would have been if in the box there was water and orange

²⁷ William Seager (2010) has proposed that we can respond against this problem by what he calls, "combinatorial infusion". When the experiences of quarks "merge", "blend" or "fuse", with each other, they lose their property of being maximal, to ground our experiences. However, I believe that Seager's response is unnecessarily complicated, and arrives with its own problem which I will not discuss here.

juice powder in it (in which case, we'd have a new macrophysical fact, an instantiation of the property of being orange juice, as a result). That is, water and oil do not ground a further third interesting macrophysical fact. So, water and oil, at least to each other, are maximal.²⁸

Should we conclude from this observation about water and oil that the physical facts about quarks also cannot ground further physical facts? Surely not. Although oil and water are maximal they are both grounded in the arrangements of multiple non-maximal microphysical facts. From this we can infer that our observations at the macro-level are not indicative about what takes place at the micro level, which in this case is at the microphysical level. This simple thought experiment, I think, is sufficient to show that we cannot take our observation about phenomenality at the macro-level to be indicative about the nature of phenomenality. From the fact that your macrophenomenal facts and my macrophenomenal facts do not ground a third macrophenomenal property, it does not follow that microphenomenal facts do not ground macrophenomenal facts.

Nonetheless, some might resist my response by saying that phenomenal facts are not like physical facts. Whereas it is easy to accept that the property of being maximal is accidental in the physical case, it is still intuitively strange that the property of being maximal is also an accidental property in the phenomenal case. The assumption here is, roughly, that phenomenal things at the fundamental level need to resemble phenomenal things at the non-fundamental level. The reason our phenomenality is maximal is because the phenomenality of quarks are maximal. Let me explain that such assumption is a false assumption. It is a mistake, a similar mistake that our

²⁸ Some might say, loosely speaking, that we would have further property, namely, an aggregate property of what we might call the water-oil property or the oily-water property in the box. But, I think such a response is not available to someone trying to challenge the panpsychist. Speaking in equally loose sense of the term, if one were to say that there exists a water-oil property, one should also commit to saying that there is in fact a further property of the experience of a whole puzzle or at least some kind of aggregate phenomenal property in virtue of having experiences of a puzzle piece, namely the phenomenality A-phenomenality B-phenomenality C-phenomenality D property.

ancestors made with regard to claiming that fire, earth, water, and air are the most fundamental, and distinct things that made up the world.

First, consider a thought experiment.

The Ancestor

Consider how one, living in the Dark Ages, would react if we were to have taken the time-machine to tell them that fire, water, earth, and air are all grounded in the arrangement of qualitatively identical quarks. She would say, "Are you kidding, or are you crazy? Fire is made up of firey stuff, and water is made up of watery stuff, and likewise, air by airy and earth by earthy. They are fundamentally distinct things and so, they cannot be made of the same stuff!"

Here, what catches the ancestor off guard is the assumption that there are fire, earth, water, and air because there are firey, watery, earthy, and watery stuff at the lowest level, not because of quarks that lacks all of these features. She finds it "crazy" that this assumption can be false.

What this example shows in general is that the assumption - that things at the fundamental level need to resemble things at the non-fundamental level - was present in the physical case as well, and that we have found that this assumption is a mistake. For example, consider how we, today, find it acceptable, though intuitively startling, that the physical things of the world, no matter how paradoxical they may seem, say, water and fire when juxtaposed, are grounded in the arrangement of qualitatively identical quarks. That is, we accept that there is not an in principle reason to reject that the physical facts about quarks ground water, fire, air, and earth. It seems to me that those that apply the assumption to phenomenality is making a similar mistake, and, furthermore, it also seems to me that the repulsive reaction to panpsychism seems to be similar to the reaction of the ancestor in the thought experiment.

What I have done in this section is note that even if it is true that macrophenomenal facts are maximal, what we need is a reason for thinking that this is part of their nature. To do this, I

have granted that some phenomenal facts, namely, the macrophenomenal facts, are maximal, and noted that we haven't been offered any reason for thinking that this is necessarily so. To claim that it is in the nature of phenomenal facts to be maximal, a different argument needs to be offered -one that goes beyond the observation that macrophenomenal facts do not ground further phenomenal facts. This, in short, is to say that the door is open for the panpsychist to claim that maximality is only a feature of macrophenomenal facts, and not of microphenomenal facts.

6. Responses Considered

I expect there to be remaining questions, criticisms and objections to the responses that I have provided against the combination problems presented in this paper. However, I cannot cover them all here. Instead, I will consider three. 1. Someone might criticize that the arguments I have provided in this paper are poor since the majority of my paper relies on a notorious form of argument: analogy. 2. Someone might say that what I have argued for sounds closer to protophenomenal properties, or potentially-phenomenal properties, which, if true, seems to leave the explanatory gap open. 3. Someone might argue that I still have to explain exactly how the microphenomenal properties ground, and until such an explanation is offered, panpsychism is implausible.

6.1 On Arguing by Analogy

In this paper, I have argued to explain away various versions of the combination problem. My criticism of each problem focuses on appealing to the *similarities* between the pansychist's proposal and the commitments of our physical inquiry to deflate the significance of the combination problem. In short, my arguments are full of analogies. But, arguing by analogy is a notorious form of argument. But, then, why did I use analogy?

To put it briefly, I found the use of analogy appropriate for the arguments I needed to give because of the nature of the subject matter, conscious experience. First, as Thomas Nagel (1974) has discussed, one of the nature of conscious experience is that my conscious experience is only available to me, yours only available to you, and a bat's only available to the bat. This is to say that there can be no such (for example, observable) "*thing*" that I can point to and confirm that panpsychism is correct and show that competing theories are wrong. In short, there are epistemological limitations in arguing for or against conscious experience. Taking this to account, I thought that we could direct our attention to our overlooked commitments to our *physical* inquiry to explain that these commitments - for example, that the relatively simple microphysical properties ground a wide variety of macrophysical properties, and that properties at the macro level do not have to exist at the micro level - show that the combination problems provide no good reasons to abandon panpsychism.

6.2 On Panprotopsychism

Someone might say that the version of panpsychism I have defended sounds closer to a view that posits protophenomenal properties, or potentially-phenomenal properties to quarks. I suspect that someone who is dissatisfied with my response to the maximality combination problem might raise this objection. She might say that since I suggest that microphenomenal facts do not involve maximal properties, I must be implying that the phenomenal properties of quarks are really protophenomenal, or potentially-phenomenal properties, not phenomenal properties. If this is what I have been implying, then, the explanatory gap would not be bridged, for the protophenomenal is just as non-phenomenal as physical properties are with respect to it

being unable to bridge the gap.²⁹ This would mean that my defense of panpsychism (or what she might call, "panprotopsychism") fails since my defense would make panpsychism useless in bridging the gap.

However, I do not think that excluding maximal properties from microphenomenal facts implies a commitment to panprotopsychism. I take it that what makes microphenomenal properties and macrophenomenal properties the same *phenomenal* properties is exactly that feature that helps us bridge the explanatory gap. In other words, it is that exact feature that allows more fundamental phenomenal facts to *ground* the less fundamental phenomenal facts which I take to be an essential feature of phenomenal properties. If one would like to refer to the view I'm defending as panprotopsychism, it can be because she means that the experiences at the lowest level is unlike ours in that it lacks maximality; however, it cannot be in the means of arguing that the explanatory gap cannot be bridge by changing the name of the view.

6.3 On the "Hows" of the Combination.

One may still find it hard to regard panpsychism as a plausible theory, not because of some other challenge against it which I did not discuss, but specifically because my response to the combination problem seems unsatisfactory. She might argue that I still have to explain exactly how the microphenomenal facts ground. We seem to understand the details of how microphysical facts ground, but we do not seem to understand the details of how phenomenal facts would ground macrophenomenal facts. She would insist that until such an explanation is offered, panpsychism is implausible.

²⁹ Chalmers's (2013a) conception of protophenomenal properties is closer to phenomenal properties in that he believes that protophenomenal properties, too, could fully bridge the gap. However, there are view discussed by him that conceive of protophenomenal properties as being closer to physical properties, which I take it to mean that they do not fully bridge the gap.

Such an objection to my response is not a successful one. Exact details of how facts ground are not necessary to show that some facts *can* ground. Just as we need not know the details of how liquidity is grounded in certain arrangement of quarks to accept that facts about liquidity can be derived from facts about the microphysical properties, we need not know how the microphenomenal facts would ground the macrophenomenal facts to accept that macrophenomenal facts can be derived microphenomenal facts. Instead of providing the details of how the particular microphenomenal facts would ground macrophenomenal facts, what I have done in response to the combination problem in this paper is to argue that if we think of the microphenomenal facts in analogy to the microphysical facts, even if we do not know how exactly they ground further phenomenal facts, there is no obstacle for thinking that they *could* ground macrophenomenal facts.

7. Conclusion.

In this paper, I have argued that the combination problem does not provide sufficient reasons to abandon panpsychism as an account of conscious experience. I began by explaining why some philosophers have found panpsychism a plausible account of conscious experience. Then, I presented three versions of the combination problem that have been raised to doubt whether panpsychism could bridge the metaphysical explanatory gap. Against, all three of the versions considered, I argued that none posed an in principle reason we need to abandon panpsychism, given that we accept the motivation of panpsychism. Lastly, I considered some objections that I thought would help clarify some questions that a reader may have.

If I have succeeded, I take it that this leave us with the project—not the problem—of figuring out exactly how the microphenomenal properties combine to yield the macrophenomenal properties we are familiar with. This project would be analogous to the one

physicists engage in: that of explaining how exactly the different microphysical properties could combine to give rise to the macrophysical properties we are familiar with. In other words, I take it that I have provided some explanations to the "hard problems" of panpsychism, that is the metaphysical challenge for panpsychism, and I hope to have made some breathing room for panpsychists to pursue the "easy problems" of panpsychism, that is, the functional challenge of panpsychism.

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