Panpsychism's combination problem is a problem for everyone

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Abstract

Panpsychism, the view that the phenomenal experiences of macrophysical items, like ourselves, are nothing over and above combinations of phenomenal experiences of microphysical items, seems to be committed to various sorts of mental combination: in order to yield experiences such as our own, it seems that experiences, subjects, and phenomenal characters would have to mentally combine. The combination problem for panpsychism is that of explaining precisely how the required forms of mental combination occur. This paper argues that, given a few plausible assumptions, the panpsychist's combination problems are not different in kind from other combination problems that are problems for everyone: the problem of phenomenal unity, the problem of mental structure, and the problem of explaining how we can have experiences in new quality spaces. Explaining how mental things combine is a big problem, and it is a problem for everyone.

1   Introduction

Panpsychism is the view that the phenomenal experiences of macrophysical items, like ourselves, are nothing over and above combinations of phenomenal

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experiences of microphysical items, where the relevant modes of combination might include physical properties and relations.[1] Most versions of the view can be seen as being motivated by the perceived failure of *physicalism*, the view that consciousness is nothing over and above some arrangement of (non-experiential) physical items, to provide an intelligible explanation of phenomenal consciousness, together with a desire to explain at least our own experiences in more fundamental terms. Physicalist attempts at explaining consciousness in terms of fundamental non-experiential physical reality are subject to explanatory gap worries (Levine 1983), the conceivability argument (Chalmers 1996), and the knowledge argument (Jackson 1982), all of which arguably arise from physicalism's failure to render intelligible the putative connection between phenomenal consciousness and physical reality. *Dualism*, which takes phenomenal experiences such as our own to be fundamental, avoids such worries by denying that phenomenal experiences can be explained in terms of something else. But dualism gives up on the reductive spirit of physicalism, taking our phenomenal experiences to be primitive, and perhaps brute and inexplicable, features of reality.

Panpsychism attempts to get the best of both worlds, combining physicalism's reductive spirit with dualism's skepticism about explaining consciousness in non-experiential terms. Like physicalism, panpsychism aims to explain our phenomenal experiences in terms of something else, though it denies that this something else is wholly non-experiential. Like dualism, panpsychism takes at least some instances of phenomenal consciousness to be fundamental. *Our* experiences may not be fundamental, but they are made up of experiences that are.

Unfortunately, it is not clear that panpsychism can offer an intelligible explanation of the phenomenal experiences of macrophysical entities like ourselves at all, and so it is not clear that panpsychism is any better off than physicalism with respect to explaining our experiences. The problem is that it is not clear

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[1]This is what Chalmers (2016) calls "constitutive panpsychism". "Panpsychism" is sometimes more generally defined as the view that consciousness is fundamental and ubiquitous.

how fundamental experiences can come together to form experiences such as our own. This problem is the combination problem, and it has been discussed at length by Seager (1995), Goff (2006), Stoljar (2006), Basile (2010), Coleman (2012), Roelofs (2014), Chalmers (2016), Montero (2016), and others.

The aim of this paper is to clarify the combination problem, assess the extent to which problems of mental combination are unique to panpsychism, and consider the implications for arguments against panpsychism based on it. §2 isolates three combination problems for panpsychism. §3 then argues that the panpsychist's combination problems are the same in kind as some other problems of mental combination that are not special to panpsychism. §4 suggests that the fact that the combination problem is not special to panpsychism suggests an "epistemic" explanation of panpsychism's apparent inability to offer an intelligible explanation of macroexperiences such as our own, on which there exists such an explanation, but we are ignorant of certain key facts that would allow us to know it.

2   Panpsychism and the combination problem

Panpsychism is a theory of *phenomenal consciousness*, the felt, qualitative, subjective, or "what it's like" (Nagel 1974) aspect of mental life. We can call particular instances of phenomenal consciousness *(phenomenal) experiences*, and the specific "what it's like" or felt quality of an experience its *phenomenal character*. For example, an experience of redness might be said to have a "reddish" phenomenal character.

According to panpsychism, the fundamental physical constituents of reality (hereafter the *microphysical* entities) have experiences, and the experiences of non-fundamental physical items (hereafter *macrophysical* entities), such as human beings, are constituted by the experiences of microphysical items, perhaps combined in a certain way, where the relevant mode of combination might involve functional and physical properties and relations. We can call the experiences

of microphysical items *microexperiences* and the experiences of macrophysical items *macroexperiences*. For panpsychism, phenomenal consciousness is both a posit and an explanandum: panpsychism aims to explain macroexperiences such as our own and it does so by positing microexperiences.

Given that a central motivation for panpsychism is the failure of physicalism to provide an intelligible explanation of phenomenal consciousness, I will assume that panpsychists aim to provide an explanation of macroexperiences that is *intelligible*. I will take this to require that the macroexperiential facts are a priori entailed by the facts about microexperiences and how they are combined. I will not assume, however, that panpsychism requires that we can ever *know* such a theory, and I will eventually suggest that such a theory might not be knowable by us.

Perhaps the most pressing worry for panpsychism is the *combination problem*, the problem of explaining how the hypothesized microexperiences combine to form macroexperiences, such as our own observed experiences. We can sharpen the worry with some assumptions:

(A1)   Macroexperiences are not identical with any one of their constituent microexperiences.

(A2)   Macroexperiences are had by subjects that are distinct from the subjects of any one of their constituent microexperiences.

(A3)   Macroexperiences have phenomenal characters that are not had by any of their constituent microexperiences.

Given these three assumptions, the combination problem becomes that of explaining how groups of microexperiences come together to constitute (1) *new experiences*, which belong to (2) *new subjects*, and have (3) *new phenomenal characters*. We can thus tease apart three combination problems for panpsychism:

(CP1)   The new experience problem

(CP2)   The new subject problem

(CP3)   The new phenomenal characters problem

Note that, given our definition of panpsychism, none of the assumptions that give rise to the combination problems form a definitional part of panpsychism, and so a panpsychist solution to these problems might coherently deny any one of them. We will return to these assumptions in due course.

Problems (CP1) and (CP2) are sometimes lumped together under the heading of "the subject combination problem" and taken to be the central or most difficult part of the combination problem (see, e.g., Roelofs this volume). There is something natural about lumping together (CP1) and (CP2) and separating them from (CP3): While all combination problems involve something *new* arising, (CP1) and (CP2) concern new experiences and subjects arising, while (CP3) merely concerns new *features* of the experiences arising in (CP1). And, as we will soon see, (CP1) and (CP2) interact with one another in interesting ways. However, as we will also soon see, separating these two problems allows us to more clearly see panpsychism's theoretical options and discern these problems' relations to other combination problems that are not special to panpsychism.[2]

In the remainder of this section, I will elaborate upon the combination problems for panpsychism and suggest that what makes them particularly challenging is that they require mental things to come together to form more than a mere collection of their parts.

The new experience problem.   The *new experience problem* is the problem of explaining how microexperiences combine to form distinct macroexperiences. For example, according to panpsychism, two microexperiences, e1 and e2, when combined in the right way, might give rise to a distinct macroexperience, E. The new experience problem is that of explaining how this new experience arises.

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[2]Chalmers (2016) distinguishes between three combination problems: the subject combination problem, the quality combination problem, and the structure combination problem. (CP1) and (CP2) correspond to Chalmers' subject combination problem and (CP3) roughly corresponds to Chalmers' quality and structure combination problems.

Problems like the grain problem (see, e.g., Maxwell 1979, Lockwood 1993, and Stoljar 2006) are not combination problems, as I am understanding them, since they are not problems of explaining how new items combine, but rather worries with certain solutions to such problems.

What makes the new experience problem challenging is that it is not clearly intelligible why a collection of experiences, however organized, should result in a new experience. This intuition is lucidly evoked by James' oft-cited passage about the impossibility of the required kind of mental combination:

> 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 . . . Where the elemental units are supposed to be feelings, the case is in no wise altered. Take a hundred of them, shuffle them and pack them as close together as you can (whatever that might mean); still each remains the same feeling it always was, shut in its own skin, windowless, ignorant of what the other feelings are and mean. There would be a hundred-and-first feeling there, if, when a group or series of such feeling were set up, a consciousness *belonging to the group as such* should emerge. And this 101st feeling would be a totally new fact; the 100 original feelings might, by a curious physical law, be a signal for its *creation*, when they came together; but they would have no substantial identity with it, nor it with them, and one could never deduce the one from the others, or (in any intelligible sense) say that they *evolved* it. (James 1890, p. 160, emphasis in original)

No matter how the 100 feelings are arranged, the existence of a further feeling would be a "new fact", one that is not a priori entailed by any arrangement of the 100 feelings.

The new experience problem arises from assumption (A1), the assumption that microexperiences combine to form *distinct* macroexperiences. One way to avoid the problem, then, is to deny this assumption, and instead claim that each macroexperience is identical to a constituent microexperience. On this view, macroexperiences such as our own are present at the fundamental level,

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and so there are no "new" experiences that we need to account for. Leibniz's (1714/1989) dominant monad view is such a version of panpsychism. One worry with this general approach is that it seems there would be a surprising structural mismatch between the microphysical properties of the dominant monad and its corresponding experience (see Chalmers 2016). Another reason to at least dislike such a view is simply that taking our own experiences to be fundamental foregoes much of the explanatory appeal of panpsychism over ordinary dualism, which is that it promises to offer an explanation of our own experiences in terms of something else. If all this is right, then the panpsychist should probably not try to avoid the new experience problem by rejecting (A1).

The new subject problem. The *new subject problem* is the problem of explaining how subjects of microexperience combine to form distinct subjects of macroexperience. Suppose s1 and s2 are the subjects of experiences e1 and e2, respectively. On most natural versions of panpsychism, when e1 and e2 combine to form the new experience E, this experience is an experience of a new subject, S, which is distinct from s1 and s2. The new subject problem is that of explaining how S arises from a combination of s1 and s2. Note that in order to get the new subject problem going, we needn't have in mind a particular conception of subjects. It is enough to note that e1, e2, and E are supposed to be experiences of distinct subjects in the same way that my experiences and your experiences are experiences of distinct subjects.

The new subject problem is challenging because it is not clearly intelligible why a mere collection of subjects, however organized, should yield a new subject (see, e.g., Goff 2006, 2009). Not any old collection of subjects involves the relevant sort of combination. A collection of four human subjects in a room does not yield a fifth subject. The apparent unintelligibility of subject combination is illustrated by James' passage cited above, in which he claims that it is unclear how "a consciousness belonging to the group as such should emerge."

The new subject problem arises from assumption (A2), the assumption that

the subjects of macroexperiences are distinct from the subjects of any one of their constituent microexperiences. We can avoid the problem by rejecting this assumption and claiming instead that the subjects of macroexperiences are simply the subjects of one or more of the constituent microexperiences. For example, in the example above, we could say that E is an experience of s1, s2, or both s1 and s2, taken severally. Of these options, the first two seem arbitrary (why should E be an experience of s1 rather than s2?), which leaves us with the last option: s1 experiences E, and s2 also experiences E. But then a result of this view is that every macroexperience is had by all the subjects of all its constituent microexperiences. Although we may have no empirical evidence against such a possibility, it seems a bit excessive. It also faces the same structural mismatch problem as the dominant monad view discussed above.[3] If all this is right, then the panpsychist should probably not try to avoid the new subject problem by rejecting (A2).

In the literature on the combination problem, the new experience problem is often lumped together with the new subject problem under the label "the subject combination problem," which is taken to be the problem of explaining how subjects of microexperiences, with their various experiences, combine to form distinct subjects of macroexperiences with distinct experiences (Seager 1995, Goff 2006, 2009, Chalmers 2016). However, the two problems are independent from one another in that it is possible to have a panpsychist view that faces one problem but not the other. As we saw above, it is a theoretical possibility that when s1 and s2 combine, a new experience E arises, but it is an experience of s1, s2, or both s1 and s2, severally, rather than an experience of a new subject S. On such a view, there is a new experience without a new subject. It is also a theoretical possibility that when s1 and s2 combine, a new subject S is formed,

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[3]Another worry with this view is that it has the consequence that every subject of macroexperience should also experience a microexperience, since every subject of macroexperience is also a subject of microexperience. But we are subjects of macroexperience, and it is not clear that we experience microexperience in addition to our macroexperiences. However, one might respond that we mistakenly identify the relevant microexperience as a macroexperience or as a part of our overall macroexperience.

but S's experience is numerically identical to the experience of s1 or s2, so no new experience arises. On this view, there is a new subject without a new experience.

The new phenomenal character problem. The *new phenomenal character problem* is the problem of explaining how the phenomenal characters of microexperiences combine to form the phenomenal characters of macroexperiences. According to assumption (A3), microphysical items do not have the full range of experiences that macrophysical items like us have. For example, we experience colors, shapes, sounds, tastes, emotions, feelings of déjà vu, and perhaps even dogs, computers, and the fact that grass is green, but microphysical items presumably do not have all these kinds of experiences.

We can distinguish between two types of new phenomenal characters that the panpsychist might want to accommodate, those that are complex and those that are simple. *Complex* phenomenal characters are phenomenal characters that have parts that are also phenomenal characters, while *simple* phenomenal characters are those that are not complex. For example, the phenomenal character of an experience of a red square might be complex in that it involves as parts a reddish phenomenal character and a squarish phenomenal character, but the phenomenal character of an experience of redness might be simple, not involving other phenomenal characters as parts. Note that simple phenomenal characters might nonetheless be *externally structured* in that they can have properties pertaining to how they are phenomenally, which might make them similar to or different from other simple phenomenal characters.[4] For example, the phenomenal character *reddishness* might be simple but it might nonetheless have a certain value on the dimensions of hue, saturation, and brightness that make it similar to and different from the phenomenal characters of other color experiences. Since color phenomenal characters are characterized by their values on the dimensions of hue, saturation, and brightness, they can be perspicuously modeled as positions in a *quality space* whose axes stand for these dimensions

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[4]See Chalmers 2016.

on which they have a value.

The panpsychist faces challenges in accommodating both simple and complex new phenomenal characters. Suppose a macroexperience E has a complex reddish-squarish phenomenal character. According to panpsychism, E's complex phenomenal character is a result of the phenomenal characters of its constituent experiences. Perhaps E is a combination of two experiences, e1 and e2, where e1 has a reddish phenomenal character and e2 has a squarish phenomenal character. The problem is that it is not clear why E should have a reddish-squarish phenomenal character, rather than a reddish phenomenal character alongside a squarish phenomenal character. In other words, it is not clear why e1 and e2's phenomenal characters should combine in E to yield a complex whole, a reddish squarish phenomenal character, rather than simply co-exist as two unrelated simple (or simpler) phenomenal characters, reddishness and squarishness. It is even less clear how new simple phenomenal characters should arise from the phenomenal characters of microexperiences, since they do not even have constituent parts that are also phenomenal characters. There aren't even any candidate phenomenal characters to be combined, let alone a way of intelligibly combining them into a new whole.

The worries can be avoided by rejecting assumption (A3), which states that microphysical items do not have the full range of experiences that macrophysical items like us have. If microphysical items do have the full range of experiences found in macrophysical items, then there need be no combined phenomenal characters. But it is implausible that the full range of experiences found at the macrolevel is found at the microlevel. Many of the phenomenal characters of macroexperiences appear to be too sophisticated to be found at the microlevel, such as feelings of jealousy or cognitive experiences of suddenly grasping a difficult concept. Additionally, and perhaps more persuasively, it is implausible that there are enough kinds of microexperiences to correspond to all the kinds of macroexperiences we can have. Many versions of panpsychism are committed to

the view that microexperiences are the inner categorical natures of microphysical items, a view sometimes called *Russellian panpsychism.* Presumably, all tokens of a particular type of microphysical entity have the same inner nature, and hence the same kind of microexperience. But, presumably, there is a limited stock of microphysical items, and, presumably, the number of such items is smaller than the number of types of macroexperiences that macrosubjects have. But then there are simply not enough types of microexperiences to correspond to all the types of macroexperiences. Some types of macroexperiences, then, must be combinations of these limited types of microexperiences.[5]

3   Combination problems for everyone

Panpsychism's combination problems are challenging (see especially Goff 2006, 2009, Chalmers 2016), but, as I will argue in this section, the panpsychist does not face them alone. They are of the same kind as the problems of explaining phenomenal unity, mental structure, and changes in quality spaces, which are problems for anyone holding certain plausible assumptions.[6]

3.1   The new experience problem is not special to panpsychism

Panpsychism's new experience problem is the problem of explaining how microexperiences come together to form distinct macroexperiences. In this subsection, I will briefly describe two other mental phenomena, those of phenomenal unity and mental structure, and argue that, as standardly conceived, they involve macroexperiences combining to form new macroexperiences. I will then argue that the problems of accounting for these mental phenomena are the same in

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[5]See Chalmers 2016 and Roelofs 2014 for elaborations of this reason for taking macroexperience to involve phenomenal characters not found in microexperience.

[6]Along related lines, Roelofs (2015) argues that any physicalist or panpsychic view of consciousness faces problems of mental combination if it allows for two conscious things to be part of a larger system that is conscious and whose consciousness is entirely dependent on theirs. He suggests that the problem could be largely avoided by taking subjects to be simple.

kind as the panpsychist's new experience problem.

The problem of phenomenal unity. In reading this paper, you might be enjoying various visual and cognitive experiences. These experiences are in some sense experienced *together*. In contrast, your experiences and the experiences of other people are not experienced together. *Phenomenal unity* is the phenomenon of experiences being experienced together that is present in the former kinds of cases and absent in the latter kinds.

The *problem of phenomenal unity* is the problem of explaining how and why some experiences are phenomenally unified while others are not. Solving this problem is particularly difficult because it seems that what is required for a group of experiences to be phenomenally unified is something more than their co-occurrence. Something like this is assumed by two influential characterizations of phenomenal unity.

On Bayne and Chalmers' (Bayne 2012 and Bayne and Chalmers 2003) characterization of phenomenal unity, experiences are phenomenally unified when they are subsumed by a single conscious state, that is, when there is a further experience that includes them both. On this characterization, phenomenal unity involves a *new* experience, one that subsumes the unified experiences.

Dainton (2000) provides another characterization of phenomenal unity in terms of co-consciousness, where co-consciousness is not merely a matter of experiences occuring in the same time, place, or even subject, but rather "consists in a relationship between experiences that is itself experienced." (p. 4)[7] On this characterization, the phenomenal unity of e1 and e2 involves an experienced relation between e1 and e2, and the experience of this relation is a new experience, distinct from e1 and e2.

The problem of mental structure. Our mental states do not form an undifferentiated mass, or a set of totally isolated distinct mental states, but are

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[7]Bayne (2012) suggests that his and Chalmers' conception is compatible with Dainton's.

instead related and structured in various ways. For example, a visual experience of a red apple on a brown table does not only involve an experience of reddness, an experience of a somewhat spherical shape, an experience of brownness, and an experience of a table-like shape. It also involves these experiences related in a certain way: The redness and the spherical shape are experienced as pertaining to the same represented object, the brownness and the table-like shape are experienced as pertaining to a distinct represented object, and the two represented objects are experienced as spatially related to each other. The *problem of mental structure* is that of explaining how mental states come to be structured in these and other ways.[8]

One instance of the problem of mental structure is the binding problem, which roughly has to do with how the operations of different parts of the brain combine to form a unified experience of a particular object having multiple features. Several "binding problems" have been distinguished (see Revonsuo 1999 and Smythies 1994), but the problem that concerns us here is what we might call the *experience binding problem*, the problem of explaining how distinct experiences that are subserved by distinct neural areas are experienced as pertaining to the same consciously represented object.[9] For example, an experience of a red square might involve an experience of redness and an experience of squareness that are subserved by different neural areas. The experience binding problem is that of explaining how these experiences come together to qualify the same represented object.

Another instance of the problem of mental structure concerns intentional structure. *Intentional contents*, what mental states (or other items) "say," are directed at, or represent, can be structured in various ways. For example, the propositional content <Lisa loves Sally> might be composed of the contents <Lisa>, <loves>, and <Sally>. The *problem of intentional structure* is that of

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[8]Note that while mental structure might require phenomenal unity, it is not the same thing as phenomenal unity, since some unified experiences might bear no interesting structural relations to one another, such as a visual experience of a red square and a cognitive experience of thinking that 2+2=4.

[9]This is, roughly, Smythies' (1994) "BM2."

explaining how intentional states representing a content's constituent contents come together to form a complex structured intentional state representing a complex structured content, rather than, say, a set or list of isolated contents. For example, how is it that <Lisa>, <loves>, and <Sally> combine to form <Lisa loves Sally>, rather than the mere set of contents {<Lisa>, <loves>, <Sally>}?[10]

Mental structure quite plausibly involves new mental states, mental states involving but distinct from the mental states that compose them. For example, suppose M1 and M2 are bound to the same represented object. Then there is a mental state distinct from M1 and M2, consisting of M1 and M2 together and organized in a certain way, i.e., as bound to the same represented object. For example, a thought that Lisa loves Sally involves not only the representation of the contents <Lisa>, <Sally>, and <loves>, but also a distinct state representing <Lisa loves Sally>.[11]

If the above claims about the problems of phenomenal unity and mental structure are right, then the problem of explaining how experiences combine to form new experiences may not be a problem special to panpsychism. On the reasonable assumption that certain kinds of holism are not true, which we will consider shortly, explaining phenomenal unity and mental structure requires, perhaps among other things, explaining how experiences can combine to form new experiences. In the case of phenomenal unity, experiences come together to form new unified experiences. In the case of mental structure, experiences or

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[10]A special case of the problem of intentional structure is the problem of the unity of the proposition, which is that of explaining how objects and properties can combine to form full-blown propositions, rather than lists or sets of non-propositional contents (see Gaskin 2008).

Given certain assumptions about the relationship between phenomenal consciousness and intentionality, the binding problem is also a special case of the problem of intentional structure. If we take phenomenal characters to be identical to, constituted by, or realized by intentional contents, as do some versions of representationalism (Tye 2000, Dretske 1995, and Bourget and Mendelovici 2014) and the phenomenal intentionality theory (Kriegel 2011, Pitt 2004, Bourget and Mendelovici 2016, and Mendelovici 2018), then, on certain reasonable assumptions, the binding problem is simply that of explaining a special kind of intentional structure.

[11]This is quite plausible on the view that there is a language of thought (Fodor 1975), on which intentional states involve distinct representations coming together to form complex representations whose contents are a logical construction of the contents of their parts.

intentional states come together to form new complex experiences or intentional states, respectively.

Of course, panpsychism requires that *micro*experiences combine to form new experiences, whereas phenomenal unity and mental structure only require *macro*experiences to combine to form new experiences. So, what the panpsychist requires is something different in scope than what the non-panpsychist requires. But it is not clear that it is different in kind. Both the panpsychist and the non-panpsychist are committed to combinations of experiences giving rise to new experiences.

One might object that there is a way out of this commitment in the case of the problems of phenomenal unity and mental structure that is not available in the case of the panpsychist's new experience problem, so the problems are different in kind. The way out of the problems of phenomenal unity and mental structure is to reject the assumption that when we experience a phenomenally unified or mentally structured whole, we also experience its parts. A holistic view of this sort (see, e.g., James 1890 and Tye 2003) avoids commitment to new experiences by denying that macroexperiences ever combine in the relevant way. What appear to be separable parts of our experiences are in fact mere aspects of the experiences, having no distinct and independent existence, but instead having an existence that depends on the whole of which they are an aspect. For example, on such a view, an experience of a red square does not involve an experience of redness and an experience of squareness. Instead, it only involves an experience of a red square, and redness and squareness are mere aspects of this experience.

However, the panpsychist might similarly avail herself to a "holistic" solution to the new experience problem: She might say that the ultimate constituents of reality are not "small" things, but rather the world as a whole, which has one single experience (at least at a time) with many aspects corresponding to what we take to be our experiences (see Goff 2017). Alternatively, she might maintain

that the ultimate constituents of reality are or include subjects like ourselves. Like the way out of the problems of phenomenal unity and mental structure, this strategy involves denying that the relevant sort of mental combination occurs. Such a view still qualifies as panpsychist on our definition, since it still maintains that macroexperiences are nothing over and above microexperiences combined in a certain way—it's just that every macroexperience is identical to a single microexperience. Unless there is good reason to think that the problems of phenomenal unity and mental structure are particularly amenable to the holistic strategy while the new experience problem is not, the availability of this strategy in their case does not suggest that the new experience problem is different in kind from the problems of phenomenal unity and mental structure.

Another objection to the claim that the new experience problem is the same in kind as the problems of phenomenal unity and mental structure is that in the case of new experiences arising from phenomenal unity and mental structure, the new experiences are experiences of the *same* subjects that experience the combined experiences, whereas in the case of the panpsychist's new experiences, the new experiences are assumed to be experiences of *new* subjects. This suggests that perhaps the way in which microexperiences combine to form new macroexperiences is different from the way in which macroexperiences combine to form new macroexperiences, which would mean that the panpsychist's new experience problem is indeed special to panpsychism. Before responding to this objection, it is helpful to consider the question of whether the new subject problem is special to panpsychism, to which I now turn.

3.2 The new subject problem is not special to panpsychism

Let us first assume a fairly thin notion of subjects on which subjects are sets of phenomenally unified experiences. On this notion, when mental combination results in a new experience, that experience automatically has a subject. For

example, once phenomenal unity results in a new experience subsuming or including all the unified experiences, we thereby automatically have a subject for that experience.

On the thin view of subjects, there is no mystery as to why phenomenally unified experiences have subjects: they have subjects simply because they are phenomenally unified and subjects are phenomenally unified experiences. On the face of it, it might seem that the panpsychist can solve the new subject problem in the same way: when the experiences of microsubjects are phenomenally unified, a new macrosubject comes to exist and experiences the phenomenally unified experiences. The new subject problem, then, can be solved by adopting a thin view of subjects and solving the new experience problem, which is a problem for everyone.

There is a worry, however, which brings us back to the worry raised at the end of the previous subsection: The way subjects combine to form new subjects according to panpsychism and the way phenomenally unified experiences come to form subjects of experiences in the case of phenomenal unity are importantly disanalogous. In a case of panpsychist subject combination, a new subject, S, experiences microexperiences m1 and m2 combined (i.e., a macroexperience M), but, it is natural to assume, m1 and m2 are each *also* experienced by a subject distinct from S. In contrast, in a case of phenomenal unity, when experiences e1 and e2 are phenomenally unified to form experience E, it is natural to assume that there is only a single subject of experience, which experiences e1 and e2 together (i.e., E). If so, then what's responsible for the arising of new subjects on panpsychism cannot be the same thing as what's responsible for phenomenally unified experiences having subjects. The problem is not so much to do with how the new subject arises, but rather with what happens to the "old" subjects once combined. In the case of phenomenal unity, the old subjects cease to exist or are subsumed by the new subject. In the case of panpsychist subject combination, the old subjects continue to exist. When microexperiences m1 and m2 combine

into M, the result is three subjects (the subject of m1, the subject of m2, and the subject of M), whereas when experiences e1 and e2 are phenomenally unified to form E, there is only one subject (the subject of E, which is also the subject of e1 and e2).

This worry arises from two assumptions, the first of which it is natural for the panpsychist to accept, and the second of which is natural for any picture of phenomenal unity to accept:

(A)   When microexperiences (or macroexperiences) combine to form macroexperiences, they are experienced both together and in isolation.

(B)   When macroexperiences are phenomenally unified, they are experienced together but not in isolation.

We can avoid the worry described above by rejecting either of these assumptions. Let us first consider (A). On this assumption, when m1 and m2 are combined to form M, there is an experience of m1 in isolation, an experience of m2 in isolation, and an experience of m1 and m2 combined (i.e., M). On the thin view of subjects, this means that there are three subjects of experience, a subject of m1, a subject of m2, and a subject of M. The panpsychist might choose to deny (A) and instead claim that when m1 and m2 are combined, they are experienced together, but not in isolation.

One view of panpsychist combination, the *combinatorial infusion view* (Seager 2010, 2016, March 2014), makes precisely such claims. On this view, when microexperiences combine to yield macroexperiences, they fuse together and cease to exist independently. As Seager (2010) puts it, they are "absorbed" or "superseded" by the macroexperience they come to constitute. On this picture, when microexperiences combine, the result is only one subject of experience that experiences the combined microexperiences.

The combinatorial infusion view, and any other panpsychist view that rejects the first assumption, avoids the worry that the problems of explaining subject unity and phenomenal unity are different in kind because they yield different

treatments of the old subjects of experience. Indeed, Seager suggests that the combinatorial infusion view might help solve the problem of phenomenal unity:

> [I]t seems to me that the familiar but deeply puzzling feature of the mind we call phenomenal unity might be illuminated by the idea of combinatorial infusion... In some way, our minds integrate all that we experience into a single overall experience. Clearly, this phenomenon has affinities with the idea of combinatorial infusion and this presents some hope that this idea will illuminate both the nature of panpsychism and even the structure of consciousness itself. (Seager 2010, p. 184)[12]

It is also possible to avoid the worry described above by rejecting (B), the assumption that phenomenally unified experiences are experienced together but not in isolation. Perhaps, instead, when e1 and e2 are phenomenally unified, e1 and e2 are experienced both together *and* severally. There is an experience of e1 together with e2 (E), an experience of e1 in isolation, and an experience of e2 in isolation. This option might seem unlikely, since we have no phenomenological evidence that phenomenally unified experiences are also experienced in isolation. But note that there is also no phenomenological evidence against this possibility: It is entirely compatible with an experience of E that there exist isolated experiences of e1 and e2. On the thin view of subjects, there would then be three subjects of experience: the subject of e1, the subject of e2, and the subject of e1 and e2 together. Indeed, Roelofs (2016) suggests that such a view is true and helpful to panpsychism, helping us make sense of how experiences can be shared between distinct microphysical and macrophysical entities.[13]

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[12]Relatedly, Chalmers (2016) suggests that a natural candidate for a "phenomenal bonding" relation is the relation responsible for phenomenal unity.

[13]The denial of (B) amounts to a denial of Dainton's (2000, p. 246) "exclusivity principle," which states that any experience can have only one subject, and an endorsement of Basile's (2010) "sharing principle," which states that an experience can be shared by two psychical wholes. Roelofs (2016) argues that denying the exclusivity principle allows us to block an argument against the possibility of between-subjects (phenomenal) unity, allowing that two experiences e1 and e2 had by distinct subjects can be phenomenally unified if there is a third subject with an experience subsuming both e1 and e2. He further suggests that the possibility

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In sum, the worry that the subject combination required by panpsychism has a different source than whatever results in phenomenally unified experiences having subjects depends on two assumptions, either of which can be rejected. If we accept the thin view of subjects and reject one of these assumptions, the panpsychist's subject combination is plausibly of the same kind as whatever results in phenomenally unified experiences having subjects. The claim that panpsychism faces a *special* problem of subject combination depends on both assumptions being true.

The rejection of either (A) or (B) also allows us to respond to the worry described at the end of §3.1 that there is an important difference between the new experiences required by panpsychism and those required by phenomenal unity and mental structure. The alleged difference is that in the case of new experiences arising from phenomenal unity and mental structure, the new experiences are experiences of the *same* subjects that experience the combined experiences, whereas in the case of the panpsychist's new experiences, the new experiences are experiences of *new* subjects. But if we accept a thin view of subjects and reject (A), then in both cases, the combined experience is an experience of a single subject that is distinct from the subject of the experiences that form the experience's parts. And if we accept a thin view of subjects and instead reject (B), then in both cases, the combined experience is an experience of a single subject that is also the subject of the experiences that form the experience's parts. So, the cases are not disanalogous. Again, the worry that panpsychism faces a *special* problem of mental combination concerning new experiences depends on both assumptions being true.

I have argued that the panpsychist faces no special problem in accounting for new thin subjects of macroexperience. But what if we think that there are such things as subjects on a thicker notion of subjecthood, perhaps one on which subjects can persist over time or exist without having experiences? A theory

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of between-subjects unity is helpful to panpsychism. See also Basile 2010 and Coleman 2013 for arguments in favor of something like the exclusivity principle on the basis of a holistic view of phenomenal unity, and Roelofs 2016 for a reply.

of thick subjects might reduce them to something else, perhaps to sets of thin subjects that meet certain further criteria, or it might take thick subjects to be sui generis. If the panpsychist accepts that there are such thick subjects and that they can combine to form new thick subjects, then, depending on what exactly they are supposed to be, she might face special problems in accounting for the required kind of combination. But I want to suggest that even if the panpsychist accepts that macroexperiences have thick subjects, she need not accept that *microexperiences* have thick subjects that combine to form them. It is enough for the panpsychist to say that microexperiences have thin subjects, and that thick subjects, if there are any, arise in some other way at the macrolevel. The problem of explaining how they arise at the macrolevel, of course, is a problem for anyone who accepts them.

3.3 The new phenomenal characters problem is not special to panpsychism

If the previous two subsections are right, the new experience and new subject problems are not special to panpsychism. Things are less clear in the case of the new phenomenal characters problem, the problem of explaining how the new phenomenal characters of macroexperiences arise from the phenomenal characters of their constituent microexperiences. Recall that there are two types of new phenomenal characters that our macroexperiences seem to exhibit that we need to explain: complex and simple phenomenal characters. Let us consider each in turn.

An example of a complex phenomenal character is the phenomenal character of visually experiencing a red square. This phenomenal character is complex because it has parts that are also phenomenal characters: the phenomenal character of redness and the phenomenal character of squareness. However, it is more than just a collection of the phenomenal characters of redness and squareness. The two phenomenal characters qualify each other: the redness is

experienced in a square shape, and the square shape is experienced as red. For those who believe in cognitive phenomenology, similar examples are available in the case of thought: a conscious thought that Lisa loves Sally might involve the phenomenal characters corresponding to the concepts of Lisa, loving, and Sally, but it is more than just a collection of those phenomenal characters. This is evidenced by the fact that it has a different phenomenal character than the conscious thought that Sally loves Lisa.

Part of the problem of explaining how macroexperiences can have new complex phenomenal characters is that of explaining how these phenomenal characters arise from their simpler parts. If the phenomenal characters of the simplest parts are the phenomenal characters of microphysical entities, then that is the whole problem. If it is not, then there is the further problem of explaining how these simple parts arise from the phenomenal character of microphysical entities, which calls for an explanation of how macroexperiences can come to have new simple phenomenal characters.

The second part of the problem is the problem of accommodating new simple phenomenal characters, which we will soon consider in its own right, so let us now consider the first part, that of explaining how complex phenomenal characters arise from their simple parts. This problem is of the same kind as the problem of mental structure, the problem of explaining how phenomenal and intentional mental features come to be structured. Many experiences and intentional states exhibit mental structure, involving components that are also experiences or intentional states that combine in specific ways, such as through binding or predication. Structured experiences and intentional states have complex phenomenal characters and intentional contents, respectively, which are presumably combinations of their constituent phenomenal characters or intentional contents.

Of course, since the panpsychist but not the non-panpsychist requires that there be microexperiences that combine in the relevant ways, she might require

that there be more instances of mental structure than the non-panpsychist, and so her problem might be wider in scope. Still, if the above is right, the problems are of the same kind. What the panpsychist needs in order to explain new complex phenomenal characters is just more of the same of what the non-panpsychist needs.

The situation is less clear when it comes to accounting for the combination of phenomenal characters into new *simple* phenomenal characters. The problem of explaining simple combined phenomenal characters seems to be the hard nut, and perhaps the special nut, of the combination problem. The problem seems *hard* because what it seems to require, simple yet combined items, seems incoherent. The problem seems *special* to panpsychism since, on the face of it, the non-panpsychist appears not to be committed to such simple yet combined phenomenal characters. The non-panpsychist might accept that there are the relevant simple phenomenal characters, but deny that they are the results of combinations of other phenomenal characters. However, I will soon suggest that the problem might not be so special after all.

The panpsychist might attempt to sidestep this problem of accounting for the combination of phenomenal characters into new *simple* phenomenal characters by denying that macroexperiences have simple phenomenal characters. It might appear that they do, but we are mistaken. For example, it might seem that a reddish phenomenal character is a simple phenomenal character, but it is in fact complex. Roelofs (2014) considers such a view, suggesting that our apparently simple phenomenal characters might be blends of the "alien" phenomenal characters of microexperiences. According to this view, although we experience these alien phenomenal characters, we only experience them blended with each other, so we cannot imagine them in isolation.

Roelofs helps defend this view by pointing to examples of macroexperiences that appear simple but plausibly are complex blends of other macroexperiences. One example is that of the apparently simple phenomenal characters of color

experiences. Perhaps an orangish phenomenal character appears simple, but, in reality, it is a blend of a reddish and a yellowish phenomenal character. Chalmers (2016) similarly gives the example of a pinkish phenomenal character being a blend of reddish and whitish phenomenal characters. Roelofs uses such examples to make two points: First, it is possible for phenomenal characters to blend. Second, we are bad at recognizing such blends, mistaking complex blended phenomenal characters for simple phenomenal characters. In the case of color experience, the reason we can come to appreciate the relevant blends is that we can come to have experiences with the constituent phenomenal characters on separate occasions. For example, we can have experiences with reddish phenomenal characters, and by comparing our reddish experiences with our orangish experiences, we can come to appreciate that "there's a little bit of red in orange." In the case of the alien phenomenal characters of microexperiences that blend to form the phenomenal characters of macroexperiences, we are not able to experience the alien phenomenal characters in isolation, so are not in a position to appreciate that the phenomenal characters of our macroexperiences are blends of them. If a view like this is right, then there is no problem of explaining how the phenomenal characters of microexperiences combine to form the new simple phenomenal characters of macroexperiences, since there are no macroexperiences with simple phenomenal characters.

However, there is reason to think there may be macroexperiences with simple phenomenal characters. Although color phenomenal characters are supposed to be good examples of blended phenomenal characters, it is not clear that they are in fact complex. An orangish phenomenal character is similar to reddish and yellowish phenomenal characters, but the reason for this similarity needn't be that it is *composed* of them. The phenomenal characters of color experiences might be simple but have various properties that are related to those of other phenomenal characters, namely their values on the dimensions of hue, saturation, and brightness. This might be what explains how they can be similar and

different to one another without being complex. If all this is right, then there arguably are macroexperiences with simple phenomenal characters, and the panpsychist faces the problem of accounting for them.

I want to suggest that the problem of explaining new simple phenomenal characters may not be a problem special to panpsychism. There is a nearby problem facing everyone, that of explaining how we can come to have macroexperiences with new simple phenomenal characters that in some sense "build on" the phenomenal characters of other macroexperiences.

Let us consider this nearby problem in more detail: As we develop and learn, we acquire abilities to have new experiences. For example, a budding wine taster might gradually acquire new abilities to have new wine tasting experiences, such as experiences with fruity, oily, and tannin-ish phenomenal characters. Similarly, though more speculatively, acquiring new concepts might come with the ability to have new cognitive experiences. For example, acquiring the concept of supervenience might confer a new ability to have a cognitive experiences with a new, perhaps simple, "supervenience-ish" phenomenal character.[14] The new phenomenal characters we are able to have in such cases are not wholly unrelated to the phenomenal characters we were previously able to have, but, instead, are similar and different to them in certain pertinent ways. Recall that quality spaces can be helpfully used to model systems of phenomenal characters that are characterized by their values on certain shared dimensions. For example, since all colors have a hue, a saturation, and a brightness, a quality space with three axes corresponding to hue, saturation, and brightness is a perspicuous way of modeling them and their similarity relations. We can think of learning and development as building upon or expanding our pre-existing quality spaces. The wine taster's quality space for wine-related experiences expands to include new dimensions or the potential for new values on old dimensions. Similarly, someone who acquires the concept of supervenience might expand a pre-existing

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[14]Mendelovici and Bourget (forthcoming) and Mendelovici (2018) suggest that concepts might have simple sui generis phenomenal characters.

quality space, on which the phenomenal characters corresponding to the notions of determination, variation, and possible worlds might be found, so as to include new points or even dimensions. In this way, newly acquired abilities to experience new phenomenal characters might be thought to build upon pre-existing abilities. Call the problem of explaining how exactly our quality spaces change in such ways the *changing quality space problem.*

On the face of it, the panpsychist's problem of explaining new simple phenomenal characters and the changing quality space problem seem quite alike: they both require explaining how we can come to experience (sometimes) simple phenomenal characters that are not present in our other concommitant or past experiences, but that are nonetheless in some important way related to them. Perhaps, then, both problems involve the same kind of mental combination, and the panpsychist's problem of explaining new simple phenomenal characters is not solely her own.

Against this, one might suggest that only the panpsychist's problem is a problem of mental combination. The panpsychist assumes that an experience's new simple phenomenal characters are a matter of the phenomenal characters of its constituent experiences, but a solution to the changing quality space problem need not make such an assumption. One important non-combinatorial solution to the changing quality space problem appeals to the functional roles of macroexperiences. Macroexperiences play a certain functional role, and this functional role determines their specific phenomenal characters. Perhaps, for instance, the functional roles of color experiences fix their phenomenal characters, and when we acquire new concepts, their functional roles, including those in relation to old concepts, make for enlarged or otherwise altered quality spaces that allow for new phenomenal characters.

However, if such a functionalist solution to the changing quality space problem can succeed, this is not automatically a problem for panpsychism or for the claim that the panpsychist does not face a special problem in accounting for new

simple phenomenal characters, since the panpsychist can co-opt the functionalist's solution. The panpsychist wants to explain new simple experiences in terms of mental combination, but the relevant modes of combination can include functional properties. Where the non-panpsychist might say that macroexperience E has a new simple phenomenal character C in virtue of playing a certain functional role, R, the panpsychist can say that macroexperience E has a new simple phenomenal character C in virtue of being constituted by experiences e1 and e2, which, together, play functional role R. In effect, the panpsychist can turn the functionalist's non-combinatorial solution to the changing quality space problem into a combinatorial solution for the problem of explaining new simple phenomenal characters. (Of course, such a solution takes some of the bite out of panpsychism, since functional roles would play a big role in the overall story, but the view still qualifies as a version of panpsychism.)

I am doubtful, however, that the problem of explaining quality space changes like the ones described above can be solved without appeal to phenomenal ingredients. Let us return to the functionalist proposal, which is arguably the most promising alternative approach. The problem is that functionalism faces well-known indeterminacy worries. For instance, a set of states that implements a symmetrical system of functional roles could equally well be said to realize at least two quality spaces (see Block 1978 and Palmer 1999). More generally, even if functional roles can determine the relations between phenomenal characters, it is far from clear that there is only one set of phenomenal characters whose members can bear those relations to one another.[15]

The functionalist might attempt to avoid indeterminacy worries by taking at least some functional states to be broad, involving relations beyond the experiencing individual, as on some versions of representationalism (see, e.g., Harman 1990 for this strategy), but this would result in externalism about

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[15]One way to put the worry is that there are in principle reasons for thinking that functionalism cannot solve what Bourget (this volume) calls the "mapping problem." The worry mirrors undetermination worries with functionalism about semantic properties; see, e.g., Kripke 1982, BonJour 1998, Putnam 1977, Mendelovici and Bourget forthcoming, and Mendelovici 2018.

phenomenal consciousness, the view that a subject's experiences are at least partly determined by environmental features, which is arguably implausible.[16,17] A second strategy is to throw phenomenal characters into the mix. If at least some positions in a quality space have their phenomenal characters independently of their functional roles, then they can serve as "anchor points" (Graham et al. 2007, p. 479), helping to constrain the possible phenomenal character assignments to the rest of the space.[18] However, it is not clear that this is enough to solve indeterminacy worries (see Bourget MS).

If, as I've very briefly suggested above, there are no viable non-combinatorial solutions to the changing quality space problem, then it might just turn out that *everyone* should accept a combinatorial solution, one that takes the new phenomenal characters of macroexperiences to be a matter of the combination of other constituent phenomenal characters, had either by the macroexperience itself or by constituent experiences. Maybe the only way to get new phenomenal characters is out of combinations of old ones.

The upshot of this discussion is that the panpsychist's problem of explaining new simple phenomenal characters might be the same in kind as the problem of explaining changing quality spaces, a problem that everyone faces. While it might seem that the two problems admit of different solutions, I have suggested that the panpsychist can co-opt non-combinatorial solutions to the changing quality space problem, and the changing quality space problem might have to be solved by appeal to mental combination anyways.

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[16]See Gertler 2001 for a defense of phenomenal internalism.

[17]Another problem with the resulting view is that it makes the wrong predictions in certain cases, since the phenomenal characters of many phenomenal states do not match any items in the external environment (Bourget and Mendelovici 2014, Pautz 2006b, 2013b, and Mendelovici 2013, 2016, 2018, Ch. 3–4).

[18]Such a strategy is employed by several phenomenal intentionality theorists, who take some intentional states to be determined by phenomenal states while others are determined by their functional relations to phenomenal states. See Graham et al., 2007, Horgan and Graham 2009, Loar 2003, Bourget 2010, Pautz 2006a, 2013a, and Chalmers 2010, p. xxiv.

4 Implications for panpsychism

I have argued that panpsychism's combination problems are problems for everyone. This section considers the implications of this claim for objections to panpsychism based on the combination problem. I want to suggest that the fact that the combination problem is a problem for everyone suggests an "epistemic" reply to these objections along the lines of Stoljar's (2006) and McGinn's (1989) defenses of physicalism.[19] According to the *epistemic view*, there is an intelligible explanation of macroexperiences in terms of combinations of microexperiences, but we are unaware of it because we are ignorant of certain key facts.

The combination problem can be used to lodge two kinds of objections to panpsychism: The first is that it undercuts one of the key motivations for panpsychism over physicalism, the argument from physicalism's perceived failure at offering an intelligible explanation of our experiences (see Strawson 2003 for this motivation). If the panpsychist cannot offer an intelligible explanation of our experiences either, then panpsychism is no better off than physicalism in this regard, which undercuts this argument (see, e.g., Goff 2009 and Carruthers and Schechter 2006 for arguments along these lines).

The second objection is that the combination problem shows that panpsychism is false. If the facts about microexperiences and how they are combined does not a priori entail the macroexperiential facts, then macroexperiences are not nothing over and above combinations of microexperiences, and panpsychism is false. Goff (2009) and Chalmers (2016) consider a conceivability argument against panpsychism along such lines, which is analogous to Chalmers' (1996) conceivability argument against physicalism.

I want to briefly suggest that if, as I have argued, the panpsychist's combination problem is a problem for everyone, these two objections can be defused. Everyone should agree that mental combination of the kinds the panpsychist

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[19]Stoljar (2006) understands physicalism broadly so that at least some versions of panpsychism count as versions of physicalism, though most of his arguments for his epistemic view also serve to defend of physicalism more narrowly construed.

requires *does* occur, so we know that there exists an intelligible explanation of mental combination, whether or not we do or can know what it is. This explanation might make reference to physical, functional, phenomenal, or other kinds of facts, or it might even take certain forms of mental combination to be primitive—for present purposes, it doesn't matter. The mere fact that mental combination is known to occur suggests that our failure to find an intelligible panpsychist explanation of macroexperience has more to do with us than with panpsychism itself. This suggests an epistemic reply to the above two objections, on which the facts about microexperiences and how they are combined a priori entail the facts about macroexperiences, but we are ignorant of certain key facts that allow us to appreciate this. If the epistemic reply is correct, then we can respond to the second objection, the objection that the combination problem shows that panpsychism is false, by claiming that the facts about microexperiences and how they are combined *do* a priori entail the macroexperiential facts, even though we do not understand how.[20]

The first objection can also be avoided so long as the physicalist cannot similarly avail herself to an epistemic reply. If the epistemic reply is equally available to the physicalist and the panpsychist, then the panpsychist's intelligibility-based argument for panpsychism over physicalism still fails. I want to suggest that the epistemic reply provides a more plausible defense of panpsychism than of physicalism for two reasons: First, as mentioned above, whether or not panpsychism is true, it is a datum that mental combination of the kinds required by panpsychism occurs. In contrast, it is not a datum that consciousness is nothing over and above the physical. This suggests that the reason that we cannot understand how combined microexperiences can result in macroexperiences is

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[20]What of the alleged conceivability of panpsychist zombies, microexperiential and microphysical duplicates of human beings that lack macroexperiences (Goff 2009 and Chalmers 2016)? The panpsychist can accept the conceivability of panpsychist zombies, so long as she maintains that mental combination requires more than mere microexperiential and microphysical ingredients, such as "phenomenal bonding" relations or some such and claims that it is these further ingredients that we are ignorant of. The panpsychist might alternatively deny the conceivability of panpsychist zombies by maintaining that mental combination is a matter of some features of microexperiences that are not currently known by us.

our own ignorance, while the reason we cannot understand how physical facts result in macroexperience might instead be due to the fact that they simply do not.

Second, the arguments against physicalism mentioned at the outset (the conceivability argument, the knowledge argument, and explanatory gap worries) show not only that the physicalist has not offered an intelligible explanation of consciousness in terms of the physical, but, further, that there is no such explanation to be had. Given a certain conception of physical facts (e.g., Chalmers' (1996) conception as facts concerning the structure and dynamics of physical processes), we can see that no set of physical facts can a priori entail the phenomenal facts, and so, that not only do current physical theories fail to intelligibly explain consciousness, but so too do *any* other possible physicalist theories.[21] If this is right, then an epistemic reply to the physicalist's intelligibility worries is ruled out—we may be ignorant of many physical facts, but we know enough about what physical facts look like in order to see that they cannot result in phenomenal consciousness. In contrast, we arguably have less of a clear idea of what a plausible account of mental combination might look like.[22] As a result, it is not clear that there is no possible account of mental combination that renders panpsychist explanations of macroexperiences intelligible, which makes an epistemic view more plausible in the case of panpsychism than in the case of physicalism.

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[21]This is, in effect, Chalmers' argument against physicalism in "Facing up to the problem of consciousness" (1995), and arguably the core reason to think that zombies, physical duplicates of us lacking consciousness, are conceivable. "But the structure and dynamics of physical processes yield only more structure and dynamics, so structures and functions are all we can expect these processes to explain. The facts about experience cannot be an automatic consequence of any physical account, as it is conceptually coherent that any given process could exist without experience." (p. 208)

[22]However, the very existence of the combination problem, and the related conceivability arguments by Goff (2009) and Chalmers (2016), suggest that mental combination cannot be explained in terms of a mere combination of physical, functional, or microexperiential ingredients. See also fn. 20.

5 Concluding remarks

I have argued that the panpsychist's combination problems are problems for everyone, and suggested that this allieviates the panpsychist's worries concerning intelligibility. Before concluding, it is worth emphasizing that combination problems afflict our very understanding of the mind largely independently of any of our favored metaphysical theories of mind. These problems are pervasive and multi-faceted, in that they arise for many different kinds of mental states and under many guises. And they are largely underappreciated. For instance, much discussion of phenomenal unity focuses on simply characterizing the phenomenon, rather than explaining it.[23] Similarly, much discussion of intentional structure focuses on determining rules for when simpler contents combine to form more complex contents, rather than explaining how mental structure is possible at all.[24]

Given the pervasiveness and apparent intractability of the combination problems, it is worth considering the possibility that we not only have not solved them, but that we simply *cannot* solve them. Perhaps we are "cognitively closed" (McGinn 1989) to them in that our minds simply cannot grasp how mental things can combine. It at least seems that we can intuitively understand items being spatially, causally, or temporally related in various ways, that we can understand them piling up, bumping each other around, and existing and changing through time. But mental combination arguably requires something more than that. It requires a new mode of interaction whereby mental things merge, blend, or otherwise become more than a spatiotemporally and causally integrated sum of their parts. Perhaps this is something we are simply not equipped to grasp, making panpsychism, and the mind more generally, impossible for us to completely understand, and giving rise to an unbridgeable (by us) explanatory gap

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[23]For instance, both Dainton (2000) and Bayne and Chalmers (2003) mainly aim to characterize phenomenal unity, rather than to offer an explanation of how it arises.

[24]King (2007) provides an explanation of intentional structure in language, appealing to complex linguistic facts and the mental acts of "ascription", and Soames (2010) offers an explanation appealing to mental acts of "predication". But these explanations only pass the buck to an explanation of *mental* structure.

between mental combinations and their uncombined parts that faces physicalists, dualists, and panpsychists alike.[25]

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