



Monadic panpsychism

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Abstract

One of the main obstacles for panpsychism, the view that consciousness is fundamental and ubiquitous, is the difficulty of explaining how simple subjects could combine to form complex subjects. Known as the subject combination problem, it poses a possibly insurmountable challenge to the view. In this paper, I will assume that this challenge cannot be overcome and instead present a version of panpsychism that completely avoids talk of combination. Inspired by Gottfried Wilhelm Leibniz's metaphysics of monads, I will focus on a relational explanation of how simple subjects could constitute complex experiences, without them having to combine in virtue of their subjectivity. I call this view *monadic panpsychism*. Additionally, my proposal will not rely on emergence and so it will circumvent problems commonly faced by emergentist accounts. As I will argue, monadic panpsychism is preferable to combinatory and emergentist panpsychism because it faces a significantly less worrisome set of objections. Apart from being unaffected by the seemingly insuperable issue of subject combination, I will demonstrate that monadic panpsychism also has tools to address other kinds of the combination problem. That alone justifies the need for a new formulation of panpsychism, one which faces unique difficulties but also offers unique solutions.

Keywords Panpsychism · Subjectivity · Combination problem · Microphenomenal structuralism · Perspectives · Consciousness-as-such

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1 Introduction

Panpsychism, the view that consciousness is a fundamental and ubiquitous property of reality, has recently re-entered the spotlight of philosophical interest. Presenting itself as an attractive middle way between the extremes of reductive physicalism and substance dualism, panpsychism attempts to integrate consciousness into our general worldview without violating the standard intuitions of the contemporary scientific mind. There are two major branches of the theory: *emergentist* and *combinatory* panpsychism. The former is the view that causal interactions between fundamental subjects or *microsubjects* lead to the emergence of consciousness at higher levels, while the latter is the view that there are relations between microsubjects that allow them to combine or arrange in a way that produces complex consciousness (Goff et al., 2022). That is, in the first case, microsubjects do not combine or arrange but rather *cause* consciousness to emerge at higher levels, while in the second case, it is their aggregation that produces complex consciousness.

The most pressing issues for emergentist panpsychism are related to the notion of emergence itself, while the most pressing issue for combinatory panpsychism is the *combination problem*, the question of how consciousness at the smallest, fundamental level of reality comes together to form complex consciousness. In this paper, I will focus on combinatory panpsychism and the combination problem, so each further reference to the theory will be in that spirit. (However, my final proposal will neither be emergentist nor combinatory.)

The most famous formulation of the combination problem stems from William James's *magnum opus*, *The Principles of Psychology* (1890). He criticised what he called the 'mind-dust theory', according to which complex mental states are combinations of basic mental states (as reported by Chalmers, 2017). James's oft-quoted passage against mental combination goes as follows:

“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 may 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.” (James, 1890: 160).

The main idea here is that private minds do not agglomerate into higher compound minds (James: 1890: 160). It is difficult and perhaps unintelligible to imagine how a group of consciousness-involving simples could unite to produce a new and distinct 101st mind.

There are three main formulations of the combination problem, each of which presents it in a different manner. The *quality* combination problem is the question of how phenomenal qualities at the fundamental level (i.e., microqualities) combine to yield phenomenal qualities at higher levels (i.e., macroqualities). A macroquality is something like phenomenal redness or *what it is like* to see red, for example (Chalmers, 2017: 183). The most pressing sub-problem of quality combination is the *palette problem*: there is presumably a limited set of microqualities, corresponding to the likely limited set of fundamental physical or microphysical entities, so how do they

produce the wide spectrum of macroqualities that we experience in daily life (Chalmers, 2017: 183)? This problem disappears if there is no good reason to think that there is a limited set of either microqualities or microphysical entities.

The *structure*¹ combination problem is the question of how a limited microexperiential structure produces a rich and broad macroexperiential structure, like the one we experience in daily life. The term ‘structure’ here denotes the correspondence of our experience to the experienced environment, so when I see a chair, the structure of my visual experience of the chair will correspond to where it is spatially located (Goff et al., 2022). The structure of this experience does *not* correspond to the structure of our brain: “Macrophysical structure [...] seems entirely different from the macrophenomenal structure we experience” (Chalmers, 2017: 183). The most pressing sub-problem of structure combination is the *structural mismatch problem*: the macrophysical structure of the brain appears completely different from the macrophenomenal structure that we experience, so how do the microphenomenal elements, which correspond to microphysical structure, combine to yield a macrophenomenal structure (Chalmers, 2017: 183)? This problem disappears if there is a good reason to think that our experience is structurally simple rather than complex.

The *subject* combination (or subject-summing) problem is the question of how fundamental subjects or *microsubjects* combine to form complex, higher-level subjects or *macrosubjects*. It seems possible, in principle, for any set of subjects to exist without a further subject existing. That is, no amalgamation of microsubjects *necessitates* the coming about of a *new* subject (Chalmers, 2017). This is widely regarded as the most challenging obstacle for combinatory panpsychism. For some, subject-summing is simply difficult to solve but not impossible, so the hope is that the panpsychist will eventually either provide a solution or avoid the problem (Goff, 2017).

For others, subject-summing is demonstrably incoherent. Coleman (2014) argues that each subject’s perspective excludes the perspective of all other subjects. A conjunction of the experiences that a subject is having and of those that they are *not* having constitutes that subject’s unique point of view, so that if those experiences were combined with the experiences of another subject, the new subject would have to instantiate a conjunction of these two sets of experiences (Coleman, 2014). This is contradictory unless the two original minds have identical sets of experiences, which is *prima facie* impossible because there would still be at least two distinct *tokens* of experiencing (Coleman, 2014: 32).

While it may be possible for two subjects to have identical experiences, it is impossible for these two instantiations of the relevant point of view to entail a *third* instantiation of the relevant point of view. The third subject, in whatever way it comes

¹ One might wonder whether there is a difference between quality and structure regarding the combination problem since both are about what are experiences are like, i.e., about an apparent quality of our conscious experience (richness and smoothness). I claim that the two problems should be treated separately because they address two different kinds of disconnects: the quality combination problem arises from the gap between the limited and fundamental phenomenology of microsubjects and the rich phenomenology of everyday human experience, while the structure combination problem arises from the gap between the highly compartmentalised and branched out structure of the brain and the seemingly smooth and continuous, unified nature of conscious experience. So, quality is about the disconnect between two phenomenal realms, while structure is about the disconnect between the physical and the phenomenal realm.

about, would be a further viewpoint resulting from two distinct token points of view, which, as Coleman argues, truly does seem incoherent, especially if their contents are mutually exclusive. Coleman (2014: 34) concludes that while the qualitative contents of consciousness *may* combine, the combination of ‘consciousnesses’ or subjects is precluded by the metaphysical logic of points of view.

My goal is to present a version of panpsychism in which subjects do not combine in virtue of their subjectivity. The aim is to avoid rather than solve subject combination, as well as to offer solutions to other kinds of the combination problem. In addition, I do not rely on the notion of emergence to offer an emergentist account of panpsychism either. My intention is not to disparage already existing kinds of panpsychism, but rather to argue that there is space for a new theory that has a different set of problems but also a different set of answers. So, I merely present a new avenue for the panpsychist to defend their theory, one which is neither combinatory nor emergentist. As Chalmers (2013: 32) stated, any panpsychist proposal that solves the combination problem would by default be the best candidate to solve the general mind-body problem. I extend this to also include options that simply *avoid* the combination problem. With that in mind, I offer a third and unique view that, to the best of my knowledge, has not been discussed in the literature so far.

2 Microphenomenal structuralism

I begin by accepting Sam Coleman’s (2014) argument that it is not only difficult to see how subjects could combine, but that the mere concept of subjects combining is positively *incoherent*. The challenge now lies in presenting a form of panpsychism that respects this constraint: any notion of subjects combining cannot be a part of the view’s ontology. When one does not accept the existence of combined, complex macrosubjects, it seems natural to say that the consciousness of each fundamental, simple microsubject depends on its *relation* to other simples. This is the notion on which I will build my proposal, which will correspond neither to combinatory nor emergentist panpsychism:

Microphenomenal Structuralism. The phenomenal character of any given microsubject is determined by its relations to other microsubjects featuring in the same relevant causal structure.

At this point, it is important to clarify what a microsubject is in its own right, isolated from all other microsubjects, and what it is when part of said structure. The basic, non-relational or intrinsic consciousness that a microsubject has in isolation can be thought of in many ways: some rudimentary, non-specific form of consciousness, a point of view without experiences, with empty awareness, the minimal subject, a mere conduit for experiences, phenomenal space, etc. Specifically, I claim that microsubjects are physical ultimates with points of view or perspectives, understood as conditions for experience as such. This shares similarities with Michael Tye’s (2021) notion of consciousness* or *consciousness-as-such*, which is non-representational basic consciousness that states must have to be conscious, tied to physical ultimates,

and distinct from representational conscious states. However, Tye's view differs from mine in that it defines consciousness-as-such in a more abstract and vague manner, rather than using the common notion of a perspective. A more specific proposal comes from Russellian panpsychism, where the claim is that every quark in the universe has the same quark-appropriate *type* of experience, that every electron has electron-type experience, and so on. In this way, Russellian panpsychists respect physics and causality: quarks are quarks, inside and out, and they cannot be anything else. Ultimately, the details are less important. Neither Tye's proposal nor points of view are demonstrably incoherent concepts. There is no logical contradiction in the idea of pure experience or something which is a condition for experience. The advantage that my proposal has lies merely in the fact that it uses an already existing concept, one which is used in daily parlance, backed by strong intuitions on what perspectives are.

However, if I only accepted these basic, intrinsic type-properties, I would have an extremely limited palette to paint with. How can complex human consciousness be composed of the relatively small number of experiences corresponding to the types of physical ultimates? Worse yet, if microsubjects were only empty points of view without experiences, where would my rich human experience come from? To expand the palette, I posit that while microsubjects only have few intrinsic properties, they can have an indefinite range of relational properties. There is the quark-type experience in isolation, but also quark-type-experience-when-part-of-*this*-causal-structure or when part of *that* causal structure, and so on. The phenomenal character of each such simple or microsubject thus depends on what position it occupies in the relevant causal structure. That is, the microsubject has its intrinsic quark-type experience or consciousness-as-such, but in addition to that it experiences the relational phenomenal qualities determined by its position and role in the structure. If the microsubject is part of an appropriate causal structure, such as the human brain, it will experience its basic consciousness *and* the full, rich human experience. The basic consciousness-as-such is intrinsic, sharp, and determinate, while our dynamic and ever-changing experience is relationally constituted, vague, and indeterminate.

What does it mean to say that phenomenal qualities are relational? There is precedent for this in the literature on philosophy of mind. A version of what Shoemaker (1982, 2006) calls the *Frege-Schlick view*, based on (Frege, 1956) and (Schlick, 1959), postulates that *qualia* (i.e., the qualitative properties of conscious experience, phenomenal consciousness) are relational rather than intrinsic. Furthermore, David Hilbert and Mark Kalderon (2000), as well as Clark (2000), construe qualitative character as relational and argue that "the qualitative character of color experiences is determined by their position in the subject's color experience space, i.e., by their similarities and difference from other experiences in the repertoire of the subject" (as reported by Shoemaker, 2006: 20). Carnap (1928) also presented a view akin to phenomenal structuralism, where experiences can be completely described in virtue of relations of phenomenal similarity between them.

These proposals usually wanted to eliminate qualia or make it compatible with physicalist theories of consciousness. Microphenomenal structuralism also views phenomenal qualities as relational, at the level of fundamental simples, though it admits of the basic consciousness of microsubjects-in-isolation as well. This basic consciousness is the point of view that I occupy, while the relational structure con-

stitutes the rich and full human experience that I have. Thus, accepting this kind of basic consciousness is what makes the fundamental simples micro-*subjects* and the theory a form of panpsychism. Since all of this happens at the level of microsubjects, without any combination or aggregation, the subject-summing version of the combination problem is avoided.

It is important to note that my proposal is compatible with the Russellian panpsychist commitment to a hybrid view of properties, where there are both categorical and relational properties. I just add one more thing to the relational realm – the phenomenal qualities of our experience – while keeping at the categorical or intrinsic level only the basic consciousness needed for experience *as such*. As stated previously, this “experience-as-such” is best understood as having a perspective or point of view. Similarly, Tye (2021: 79) argues that consciousness-as-such or *consciousness**, as mentioned above, is a property that a state must have to be conscious. Experiencing something is thus undergoing a state that has the property of being conscious*, so that consciousness* is the condition for experiencing as such. Consciousness* is neither representational nor functional, but rather irreducible and fundamental. I endorse the same general model, though I specifically argue that perspectives or points of view, as positive and concrete proposals, satisfy all the conditions of consciousness*, yet are easier to understand. The phenomenal qualities that are relationally constituted ‘anchor’ themselves, so to speak, in the perspectives or points of view of microsubjects, the only difference being that this relational constitution of phenomenal properties has its endpoint at the fundamental level rather than at the level of a combined complex or emergent subject.

3 Monadic panpsychism

As stated, the main aim of microphenomenal structuralism is to avoid the subject-summing version of the combination problem. If the phenomenal character of each microsubject is determined by their mutual relations at the fundamental level of reality, then my proposal can account for full human consciousness without relying on the weak or strong emergence of additional subjects, which is a major advantage for the theory. Based on the discussion so far, I can now introduce the resulting form of panpsychism. Inspired by the philosophy of Gottfried Wilhelm Leibniz, *monadic panpsychism* is the claim that microsubjects exist and interact in a dynamic and interconnected way (Strickland, 2014). Microsubjects thus resemble Leibniz’s *monads*, which are simple mind-like substances, organised in a hierarchical manner in which one monad is dominant:

“From this we see that each living body has a dominant entelechy, which in the animal is the soul; but the limbs of this living body are full of other living things – plants, animals – each of which also has its dominant entelechy or soul.” (as reported by Strickland, 2014: 28).

So, only *one* monad serves as the ‘soul’ of the organism. Here, Leibniz also claimed that this goes on forever, with each subordinate monad having its own dominant soul,

which is not something I endorse. Additionally, the 13th paragraph of the *Monadology* played a crucial role in shaping my proposal. In this passage, Leibniz defines monads as encompassing a plurality within the unity or the simple, undergoing degrees of change, and possessing multiple affections and relations despite lacking parts (as reported by Strickland, 2014: 16). To be clear, my proposal is by no means fully committed to Leibniz's complex metaphysics, but it was the source of the initial thought on which my theory is based. For instance, Leibniz's conception of monads heavily relies on his idea of pre-established harmony or *concomitance*, as outlined in the *Discourse on Metaphysics* – a concept I do not endorse. To provide an account that is both deeply theological and capable of grounding the laws of nature, Leibniz posited concomitance as the belief in a parallelism between the mental and the physical realm, directly orchestrated by God in a perfect and infallible manner (Johns, 2023: 291).

In contrast, my proposition does not necessitate adherence to any non-standard perspective on causation (or belief in gods). Moreover, the notion of physical ultimates as microsubjects, although comparable to monads, is by no means metaphysically identical to how Leibniz presented them in the *Monadology*. Rather, what renders my proposal Leibnizian in spirit is the idea that simples are individuated in virtue of their internal states, organised in a highly hierarchical structure with a dominant entelechy at the top, and capable of reflecting all other simples in an interconnected manner. The three versions of monadic panpsychism that I will discuss are static, dynamic, and global monadic panpsychism. All are committed to microphenomenal structuralism, where the phenomenal complexity that we associate with human consciousness is relationally constituted, without postulating any complex higher-level macrosubjects. Further parallels to Leibniz will also be explored in the following sections.

3.1 Static monadic panpsychism

I will start with the static version since I quickly want to dismiss it. The reason for this is not based on how intuitive or counterintuitive the view is but rather on how unnecessary it would be to postulate such a view. It would create more problems and demand more explanations than other options that I will present, being less parsimonious and thus less attractive overall. The basic idea is that the dominant microsubject keeps its dominant role permanently:

Static monadic panpsychism (SMP). All microsubjects featuring in the relevant structure relationally determine the phenomenal character of only one *particular* microsubject in a way that gives it a full human experience. That particular microsubject plays the dominant role.

The relevant relational structure is whatever is minimally necessary to produce my current conscious experience at any given time, such as the whole brain, a region of the brain, or a cluster of neurons. As part of that structure, microsubjects are related so that the position of each particular microsubject determines its phenomenal content, with one of them being 'at the top' of the hierarchy, so to speak, playing the role of our full human experience. The obvious objection here is: what happens if the

dominant microsubject stops being a part of the relevant structure, perhaps due to brain damage? This sounds similar to a view that Leibniz held in his youth, expressed in the doctrine of *flos substantiae* ('flower of substance'), in which a person's soul was a part of a minimal piece of matter, no bigger than a mathematical point, which was located in the centre of the brain (Strickland, 2014: 136).

After death, the body would be destroyed but the soul would persist since mathematical points are indivisible and thus indestructible (Strickland, 2014: 136). The purpose of this doctrine was to ensure the soul's survival after death. It seems unnecessary and empirically suspect to think that one microsubject – a consciousness-bearing physical ultimate – permanently contains the 'soul' of the organism, so that if only it was removed from the brain the whole organism would perish, which is why I will not further discuss static monadic panpsychism.

3.2 Dynamic monadic panpsychism

To circumvent this issue, consider the dynamic version of the theory, where the dominant role can be played by any microsubject and switch dynamically, likely in a manner isomorphic to brain processes:

Dynamic monadic panpsychism (DMP). All microsubjects featuring in the relevant structure relationally determine the phenomenal character of only one microsubject in a way that gives it a full human experience. That microsubject plays the dominant role, but which particular microsubject that is can change at any given time.

The conscious experience of the dominant microsubject is determined by its relation to other microsubjects. In case of the dominant microsubject being removed from the brain, any other microsubject could replace it in its dominant role and become the new endpoint for the relational constitution of a full human experience. Leibniz expressed a similar view, according to which there is no reason to suppose that each soul has matter that is tied to it forever, but rather that bodies are ever-changing, with parts continually entering and leaving (as reported by Strickland, 2014: 28). The dominant entelechy or soul always remains embodied, but its body is "subject to continual change such that no part of the body is permanently united to the entelechy" (Strickland, 2014: 135). This follows from Leibniz's view that "every created being is subject to change, and consequently the created monad also, and even that this change is continual in each one" (as reported by Strickland, 2014: 16). Leibniz adopted this view after abandoning the *flos substantiae* doctrine.

Static and dynamic versions of monadic panpsychism must face the issue of explaining the relationship between the dominant microsubject and non-dominant ones. There are two relevant questions, one about *how* a physical ultimate becomes dominant – about the metaphysical principle of individuation – and another about how we *know* which one is dominant at any given time – about the epistemological principle of individuation. That is, the metaphysical aspect pertains to the mechanism that would allow for a certain physical ultimate to become the locus of complex con-

sciousness, while the epistemological aspect pertains to the methodology we would employ to determine which ultimate is the endpoint of such a mechanism.

Regarding the former, a simple answer lies in the assumption that phenomenal structure mirrors causal structure, which is safe to presume in the absence of evidence to suggest otherwise. So, by discovering how the brain integrates information into a unified experience, we would likely get a clue as to how that process relates to the coming about of a dominant microsubject, lending credence to the fundamental picture painted by the monadic panpsychist. For example, we can potentially distinguish which neuronal structures are correlated with general consciousness, the current experience of the subject, particular memories, etc. There are reasons to think that the claustrum – “a thin, irregular, sheet-like neuronal structure hidden beneath the inner surface of the neocortex in the general region of the insula” – is connected to integrating information at a fast time-scale in the brain and thus relevant to the production of consciousness (Crick & Koch, 2005: 1271). This does not tell us which ultimate in particular is the dominant microsubject, of course, but it brings us a tiny step closer. In the distant future, we could conceivably identify what the hierarchy looks like at the fundamental level and thus discover the principles of selection and change governing microsubjects by monitoring the brain over time, though this is likely unviable. Still, it plants the seed for a positive empirical thesis that could, at least in principle, explain both metaphysical and epistemic individuation principles.

Regarding the latter, barring momentous leaps in science, I am willing to bite the bullet and concede that we cannot know which physical ultimate plays the dominant role – at least not ‘from the outside’, without *being* that dominant microsubject. The dominant microsubject is individuated from other microsubjects purely phenomenologically, ‘internally’, without any measurable external sign that it is dominant, apart from featuring in the currently active firing of neurons. This is indirect and opaque as it does not reveal the specific physical ultimate but only gives me the trivial ability to say: “it is this one – me!” However, given that such an explanation is not impossible in principle, in addition to the greater explanatory power of monadic panpsychism compared to similar alternatives, I do not think that this severely undercuts the aims of this paper.

3.3 Global monadic panpsychism

The third version of the theory moves away from apparent similarities to Leibniz’s metaphysics. It is a more structural proposal that seeks to explain rich human consciousness primarily through interconnectedness. Specifically, it abandons the idea that only *one* microsubject plays the dominant role:

Global monadic panpsychism (GMP). All microsubjects featuring in the relevant structure relationally determine the phenomenal character of all other microsubjects that make up the structure, so that the phenomenal character of every single one of them is the full human experience.

The result is an exceptionally large number of microsubjects who all experience human-level consciousness. Admittedly, this is the most difficult version of the the-

ory to defend. When I am thinking, it is like saying ‘the cabinet is meeting to consider this proposal’ but everyone says the same thing, at the same time. The ‘me’ that I am referring to when I self-identify is like a layer of me(s) who are qualitatively the same. Because of this phenomenal sameness, I experience the many instantiations of ‘I’ as one.

It is not the case that the plurality *as such*, as a whole, over and above individual microsubjects, experiences the richness of my consciousness since this would lead back to the subject-summing version of the combination problem. Rather, it is the case of many individual microsubjects experiencing the same thing, but that multitude is not apparent within my consciousness since there is no phenomenal difference between the microsubjects – they are qualitatively identical. In GMP, all microsubjects contain my full experience, though because they all experience exactly the same phenomenal content, I think of myself as one. There are billions of ‘me’ in my brain thinking the same thought – ‘I really went overboard with this view’ – but because they all think it at the same time, I have the illusion that there is only one ‘me’. It is like listening to a recording of the same melody played on a billion identical pianos in unnaturally perfect sync and pitch. It would sound the same as if it were played on only one piano.

There is no subject combination or emergence problem in GMP. As an alternative to the explanation in the previous paragraph, imagine that the contents of the brain ripple through the whole brain, so that every individual microsubject reflects the totality of all phenomenal experiences in the brain. The only thing that needs to combine or ‘travel through’ the microsubjects then are the relational experiences, as defined. Since all of the microsubjects are identical in this scenario, having exactly the same full human experience, whichever one we experience at a given time will feel like the only one, as the unified and rich experience that we know in day-to-day life. All the other ones are like a backup system, where if one fails, an identical copy is immediately reinstated and continues operating. There is no phenomenal difference to be expected if the contents are wholly the same. Two, three, or a billion instances of a computer program with identical data and settings would appear the same to any user, without them being able to notice a difference between the instances.

What prevents my proposal from being pure mereological nihilism² is precisely this: in both DMP and GMP, the relational structure has an endpoint in one or more microsubjects which experience themselves as one, as a proper whole. This allows for a restricted or ‘moderate’ version of mereological nihilism on which the only proper wholes are organisms. van Inwagen (1990: 115) supports this view: parts compose a whole if and only if the activity of the parts constitutes a life. Similarly, Merricks (2001) argues for a restricted form of mereological nihilism in which only conscious beings can be regarded as proper wholes, which is perhaps more pertinent to my proposal. That is, I am presenting two ways, through DMP and GMP, in which conscious beings can be regarded (and regard themselves) as wholes.

² Mereological nihilism is the view that there are no composite objects – objects with proper material parts, such as cats, tables, apples, and the like (Contessa, 2014: 199). What I mean by ‘pure mereological nihilism’ is this plus the claim that there are no proper wholes of any kind, including mental wholes.

Finally, regarding which version of monadic panpsychism I prefer, I opt to argue for a disjunction of the two. Regardless of whether DMP or GMP is more convincing, they are both steps in the right direction when it comes to forming a new conception of panpsychism. However, I do find the idea of a billion or more instances of ‘me’ less intuitively appealing than the idea of the dominant role switching dynamically. Still, I will defend both theories as viable, each offering a different set of replies to objections and distinct models of complex consciousness.

4 Objections and replies

Now, I will extensively discuss some potential objections to monadic panpsychism, starting from the general objection that the view is counterintuitive, perhaps more so than other versions of panpsychism. Then, I will address what challenge the quality and structure combination problems present to my proposal. I will demonstrate that monadic panpsychism is well-equipped to face these issues with a novel and unique set of tools.

4.1 Intuitions against monadic panpsychism

Like with all forms of panpsychism, the immediate objection is that my proposal is counterintuitive or just downright unbelievable. When people first hear of panpsychism, in its general form, the first question is commonly whether rocks are conscious, followed by a stare of disbelief. However, monadic panpsychism might appear as even more counterintuitive than other forms of panpsychism since it claims that human consciousness obtains at the level of microsubjects. Considering that panpsychists also raise objections against physicalism based on intuition, I will take this charge seriously.

The sense of scale is probably what is most suspicious: it is simply crazy to say that my rich human experience is contained within one physical ultimate, as per DMP, or that every physical ultimate in my brain is fully me, as per GMP. However, mereologically nihilistic views about the physical which deny that there are proper physical wholes are not seen *as* controversial as panpsychism, so why should mereological nihilism about consciousness, which denies that there are proper mental wholes, be seen as more controversial? In fact, is it not more parsimonious to expect that the mental behaves in alignment with the physical? This is not an endorsement of mereological nihilism. The point is merely that mereological nihilism is a counterintuitive view, yet it does not face the same level of incredulity as panpsychism. So, I freely admit that monadic panpsychism is indeed a deeply counterintuitive view, but that does not mean that it is not true. This is also why I have not previously rejected SMP due to intuitions but rather due to considerations of parsimony and empirical soundness, even though the view could be labelled as counterintuitive even within the overall framework of monadic panpsychism.

If we are more ready to accept that there are no tables but just particles arranged table-wise (van Inwagen, 1990), then we should grant the same level of acceptance to the idea that there are no non-fundamental subjects but consciousness-involving

ultimates arranged human consciousness-wise, forming the relevant causal structure in which microphenomenal structuralism obtains. Monadic panpsychism postulates that the phenomenal character of microsubjects depends on the relations those microsubjects feature in, within a relevant causal system, and if that is enough for rich human-level consciousness to be the end result, then the view is preferable to forms of panpsychism which face the subject-summing combination problem or depend on emergence. So, while there are many proposals within the literature on panpsychism that try to solve the subject combination problem, offer different solutions through emergence or fundamentally different kinds of ontologies, such as cosmopsychism³, to the best of my knowledge there is no account that directly tries to *avoid* the problem by presenting an unaffected version of panpsychism that assumes the impossibility of subject summing at the outset. What I propose is a markedly different kind of panpsychism that faces different problems but also has a new and unique toolbox of potential solutions. That alone is enough for the theory to be taken seriously, despite it being counterintuitive.

4.2 Quality combination: the palette problem

While monadic panpsychism manages to avoid the subject-summing version of the combination problem, it still has to face the issue of how qualities combine. The most pressing aspect of the quality combination problem is the *palette problem*, the question of how the limited palette of microqualities can produce “the vast array of macroqualities, including many different phenomenal colors, shapes, sounds, smells, and tastes” (Chalmers, 2017: 183). This problem is especially relevant to Russellian panpsychists since they argue that the phenomenal qualities experienced by microsubjects correspond to the small number of kinds of physical ultimates, so that there is quark⁴-type experience, muon-type experience, gluon-type experience, and so on⁵. It might even be more serious for monadic panpsychism, considering that I accept the possibility that fundamental consciousness is of one kind, basic and bare, similar to consciousness* as Tye (2021) discusses it: non-representational basic consciousness which is tied to physical ultimates and distinct from representational conscious states. The overarching problem pertains to the question of how qualities combine at all, while the more specific palette problem asks how the small number of fundamental qualities leads to the rich qualities experienced in human consciousness.

The most straightforward way for the monadic panpsychist to avoid the palette problem is to say that while there might be few *intrinsic* phenomenal properties, there can be a plethora of *relational* phenomenal properties. This extension of the original Russellian commitment can be done without giving up on the idea that fundamental phenomenal qualities correspond to physical ultimates and without infringing on the

³ Cosmopsychism presents a top-down ontology in which the cosmos as a whole is fundamental and instantiates consciousness (see Nagasawa & Wager, 2017; Shani, 2015).

⁴ Assuming for the sake of discussion that quarks, muons, and gluons truly are fundamental particles.

⁵ To clarify the vocabulary, Chalmers (2017: 183, 189–90) frames it in terms of microqualities corresponding to microphysical properties, such as mass, charge, spin, while I prefer to frame it in terms of fundamental qualities corresponding to physical ultimates. Both formulations ultimately end up with the same asymmetry of quantity: few basic qualities, many rich conscious experiences.

causal closure of the physical. While it might be true that a quark in isolation has a quark-type of experience, there is nothing that would violate causal closure in the idea that there is also a quark-type-of-experience-when-part-of-*this*-causal-structure or when part of *that* causal structure. If the causal structure itself is what constitutes and fixes the experience of the dominant microsubject, then there is no possibility of that experience differing if the brain state remains the same. Identical causal structures, such as identical brain states, will produce identical experiences. So, the claim is that there are many relational phenomenal qualities corresponding to the many possible causal structures such as brain states.

There are few intrinsic but many relational phenomenal properties and there is nothing problematic in principle with the idea of phenomenal properties changing through the interaction of physical ultimates. The causal structure is precisely what determines how microsubjects will interact and which particular microsubject's experience will be constituted and determined as the dominant one. This solution to the palette problem is directly tied to the metaphysics of monadic panpsychism, where the production of rich human-level consciousness via the thesis of microphenomenal structuralism happens solely at the fundamental level. In the case of DMP, all microsubjects of the relevant causal structure relationally constitute the experience of the dominant microsubject, the one that provides the perspective or point of view. In the case of GMP, the story is the same, the only difference being that *all* microsubjects in the relevant causal structure have full human experience, as previously described.

To further illustrate the simplicity and appeal of monadic panpsychism, I will compare it to a popular reply to the palette problem. Patrick Lewtas postulates that at least "some basic physical objects [...] simultaneously experience instances of more than one distinct basic experience type" (2017: 757). Using quarks as a stand-in for whatever is fundamental, he further argues: "the quark has a plurality of distinct and wholly separate conscious properties (e.g. red experience, taste-of-brine experience) just as it has a plurality of distinct and wholly separate physical properties (e.g. mass, spin)" (Lewtas, 2017: 757). To avoid problems with causal closure, he argues that consciousness is non-causal, at least not in an *active* sense, yet physical nature has the capacity to change itself in response to *passive* conscious properties:

"It sits there as is, and the physical responds to it. The experience doesn't exert force upon the physical the way a flying brick exerts force on a windowpane. Instead, the physical 'detects', 'reads', or otherwise 'picks up on' the nature/content of the experience and changes its own state accordingly. This keeps the actively causal/functional wholly on the physical side." (Lewtas, 2018: 143–4).

Therefore, if physical ultimates can have many different basic phenomenal qualities and if consciousness is non-causal in the active sense, then there is no threat from the palette problem and causal closure is preserved. This is a non-starter for the Russellian panpsychist since they accept the view that every fundamental physical ultimate *type* has its corresponding fundamental phenomenal *type*, as well as for the monadic panpsychist since they are open to the possibility of there being only one kind of fundamental consciousness-as-such. However, my aim here is not to explicitly argue against Lewtas since I merely want to compare my solution to the palette problem

to his proposal. The point is that Lewtas' view, within the purview of panpsychism, depends both on a non-standard view of fundamental phenomenal qualities as well as on a non-standard view of causation. Mine does not.

Others went in the completely opposite direction. Roelofs (2014) argues that there is nothing problematic with the notion of a very small number of basic qualities, while Turausky (manuscript) makes the claim that there might only be *one* basic phenomenal quality that can account for human-level consciousness. I will not go into further detail since I only want to make the point that monadic panpsychism does not need to accept any special view of fundamental qualities or causality to avoid the palette problem, while also avoiding the subject-summing version of the combination problem. The nexus of relationally constituted qualities paired with perspectives being fundamental and categorical is simply a panpsychist merger of two major views, connected in a novel way via microphenomenal structuralism. Because of this, I believe that my proposal has the edge.

4.3 Structure combination: the structural mismatch problem

Another major objection to monadic panpsychism is the *structure combination problem*, the most pressing version of which is the *grain problem*. Experiences seem to be smooth and continuous, such as an expanse of red in our visual experience, which is at odds with the discrete and particularised structure of the brain, involving “transfers of or interactions among large numbers of electrons, ions, or the like” (Maxwell, 1978: 398). Being smooth and being particulate or discontinuous are structural properties that are mutually incompatible, so at least some mental events seem to “exemplify structural properties that are not exemplified by any brain event” (Maxwell, 1978: 398). How can we reconcile this discrepancy? Monadic panpsychists think that the structure of conscious experiences is isomorphically related to physical structure, so how does this multitude of microsubjects, entwined in a complex interconnected network, interact in order to produce this smooth, continuous expanse? Why are those relations between microsubjects revealed to us through experience? This is different from the quality combination problem since it asks how phenomenal and physical structural properties are connected, as opposed to asking how qualities combine solely at the phenomenal level.

One potential reply to this objection was discussed by Lockwood (1993), who claims that the grain problem disappears when we consider recent trends in physics. He presents an argument based on quantum mechanics:

“[T]here are, in quantum mechanics, no observables, or sets thereof, which are *a priori* privileged. In particular, there is, in terms of quantum-mechanical observables, no rock-bottom level of structure to be discerned in the world. [...] In quantum mechanics there is a sense in which all observables, and in particular observables corresponding to every level of structure, are to be regarded as equal in the sight of God, as are different frames of reference, relativistically conceived.” (Lockwood, 1993: 288).

That is, according to Lockwood (1993: 288–9), the world can be structured at other levels too, not just at the level of elementary particles. So, the idea that there is one specific structure which needs to be revealed in conscious experience, or correspond to macrophenomenal experience, is misleading since it relies on classical physics, without considering the possibilities that quantum mechanics provides. Specifically, Lockwood (1993: 290) claims that by utilising the concept of an observable in quantum mechanics, we can make it intelligible how a common underlying structure can manifest itself in superficially very different ways. Additionally, this conception removes the need to appeal to any inner representation which is distinct from the state itself since direct familiarity with a ‘cross-section’ of something implies direct familiarity with the thing itself rather than with ‘some cognitive surrogate of it’, even though this is revealed to consciousness only under a certain aspect (Lockwood, 1993: 290).

The brain activity producing a certain phenomenal state is revealed to the subject *as it is in itself* but under a certain point of view (Lockwood, 1993: 289). Admittedly, this is very abstract and difficult to understand, but the general argument is that there might not be any structural mismatch if we look at the level of quantum mechanics. Presumably, quantum entanglement scenarios would rely on a completely separate notion of structure than classical physics and could also be considered as different manifestations of the same phenomenon. This is somewhat similar to William Seager’s (1995) proposal that particles in the state of quantum entanglement might be responsible for the production of higher-level consciousness. Through the example of the double-slit experiment, where photons pass through a pair of slits and hit a detector screen, creating an interference pattern that is a superposition of photons from the left and the right slit rather than an expected mix of both, Seager argues that something akin to *phenomenal superposition* could be responsible for genuinely new states of consciousness in a manner that avoids both combination and strong emergence (Seager, 1995: 284). Coleman (2014: 36–7) raises the objection that such accounts entail the emergence of a *new* subject since microsubjects, as discrete entities, cannot contribute to the unified subjectivity of the whole *in virtue* of their subjectivity. That is, in phenomenal superposition, there still seems to be a new subjective state that is disconnected from the original microsubjects. Contra Coleman, Seager (2010) could object that microsubjects are not disconnected from the new state, claiming instead that there is an intelligible relation between the constituents and the whole. While inconclusive, the views presented by Seager and Lockwood offer novel ways of thinking about consciousness, with enough leeway to avoid complete rebuttals.

Goff (2017) discussed a reply similar to Lockwood since they both argue for a structural *match* between the structure of the brain and the structure of consciousness, though Goff does not rely on quantum mechanics to present his argument. Specifically, Goff argues that there is “a vast multiplicity of kinds of consciousness corresponding to a vast multiplicity of structures in the brain” and that this means that “the mystery as to why there is a form of consciousness mirroring a seemingly quite arbitrary brain-structure disappears” since “many macro-level brain structures correspond to phenomenology” (2017: 207). According to Goff, we do indeed find structure in the brain isomorphic with the structure of consciousness if we consider less basic kinds of brain structure, with consciousness corresponding both to more basic

and to less basic brain structures (Goff et al., 2022). In the realm of monadic panpsychism, this reply coheres well with the proposition that phenomenal and physical structures maintain an isomorphic relationship. That is, there is a structural match in monadic panpsychism because ‘I’ am a physical simple, a microsubject, undergoing a simple and smooth human experience that is being constituted and determined by the relevant causal structure. The *simple* experience is presented to a physical *simple*, so this is essentially a stripped-down, minimal version of Goff’s proposal.

Stoljar (2001) argues that the grain problem gets the phenomenology wrong. While it might seem plausible to say that the expanse of red in my visual experience is smooth and continuous, it does not follow from this “that the experience *itself* is smooth and continuous” since “an experience of red represents something as being red, but it itself is not red” (Stoljar, 2001: 276). The smoothness – the absence of grain – is a feature of something that experiences *represent* but not a feature of experiences themselves (Stoljar, 2001: 276). Moreover, Stoljar argues that “many acts or states of experiencing seem in a certain respect ‘diaphanous’ to introspection: introspection reveals the intentional objects of experiences to us, but not the experiences themselves” (2001: 276). All that introspection reveals is that we often have experiences “which represent things as being smooth and continuous” (Stoljar, 2001: 276), but this is different from saying that the experiences *themselves* are smooth and continuous. I think that this response to the grain problem could be attractive to all panpsychists who must face the issue, considering that it shows how, at least in principle, we can provide an answer.

5 Conclusion

My primary goal in this paper was to formulate a version of panpsychism after accepting the impossibility of subject summing, as well as to offer potential solutions to other kinds of the combination problem. The main notion that carries the theoretical weight of my proposal is microphenomenal structuralism, the nexus of relational phenomenal qualities and categorical subjectivity or consciousness-as-such. This idea could be seen as an extension of physicalism because it only adds the possibility for fundamental matter to be the locus of experience to an otherwise completely physicalist worldview. Microphenomenal structuralism posits that the phenomenal content of the whole brain, i.e., the relevant causal structure, is ‘packed’ into one simple experience and presented to one particular microsubject that, in turn, provides the perspective or point of view, i.e., the possibility for experiencing as such; or presented to many or all microsubjects in the brain, as per GMP. Standard objections based on combination or emergence thus simply do not apply.

Furthermore, by presenting two viable models of monadic panpsychism, namely DMP and GMP, I intend to offer two blueprints for the view, each with its own respective set of problems. Surely, despite the flexibility, my proposal suffers from unique issues, though I maintain that none are insurmountable or, at the very least, as serious as the subject combination problem. As Chalmers (2013: 32) said, any reasonable solution to the combination problem would immediately become the most promising solution to the mind-body problem *tout court*. I would like to extend this to include

proposals that simply avoid combination or remain convincing despite the strength of the conclusion of the subject summing problem. Because of that, I think that monadic panpsychism is ultimately more robust than other forms of panpsychism and deserving of further consideration.

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Declarations

The author has no conflicts of interest to declare.

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