

# Mental Chemistry:<sup>1</sup> Combination for Panpsychists

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## ABSTRACT

*Panpsychism, an increasingly popular competitor to physicalism as a theory of mind, faces a famous difficulty, the ‘combination problem’. This is the difficulty of understanding the composition of a conscious mind by parts (the ultimates) which are themselves taken to be phenomenally qualified. I examine the combination problem, and I attempt to solve it. There are a few distinct difficulties under the banner of ‘the combination problem’, and not all of them need worry panpsychists. After homing in on the genuine worries, I identify some disputable assumptions that underlie them. Doing away with these assumptions allows us to make a start on a working conception of phenomenal combination.*

## 0. Introduction

Panpsychists need to say something about the combination problem. According to panpsychists, it is unintelligible that utterly non-phenomenal material parts could be put together so that their mere assembly yields a conscious mind. For how could the conscious, the felt, the sentient, derive from the dead, the unfeeling, the insentient? That is why we have an explanatory gap and why, so say the panpsychists, conventional physicalism should be abandoned in favour of a view that sees the ultimates possessed of phenomenal qualities.<sup>2</sup> With phenomenal properties there in ontology from the outset, panpsychists aver, we will have removed the major hurdle in the way of understanding how the arrangement of matter can be the arranging of a mind. But physicalists are quick with a *tu quoque*<sup>3</sup> retort. We can no more understand how phenomenal bits and pieces could form the large phenomenal unities we recognise as minds than we can grasp how purely physical parts could compose a conscious mind, the physicalists say.<sup>4</sup> Thus the debate between physicalists and panpsychists sits at something of a deadlock, with explanatory gaps alleged on both sides. Perhaps

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<sup>1</sup> I understand the term ‘mental chemistry’ is due to Mill.

<sup>2</sup> ‘Ultimates’ is a placeholder for the basic constituents of matter, wave/particles, strings, fields or whatever. I derive the term from Galen Strawson. The panpsychist’s ultimates are to be conceived of as follows: objects whose essential intrinsic nature is phenomenal. So one such ultimate may be conceived of as an object with a unitary phenomenal quality (for example phenomenal blue). On this conception the panpsychist’s ultimates are simples, which chimes with the empirical assumptions of modern physics. See also note 29.

<sup>3</sup> I follow Shani in labelling the physicalist response the ‘*tu quoque* argument’. See Shani 2010.

<sup>4</sup> As Goff puts the point: ‘[t]he emergence of novel macroexperiential properties from the coming together of microexperiential properties is as brute and miraculous as the emergence of macroexperiential properties from non-experiential properties.’ (2006, 54) I take it that it is implicit here that what are coming together are *things* (i.e. ultimates) with microexperiential properties—it’s hard to know what else could be meant by talk of properties coming together. It is the alleged unintelligibility of phenomenal combination that also underwrites Goff’s (2009b) ‘panpsychist zombie’ argument’ (see final section).

panpsychists would insist that their explanatory gap—the question of how phenomenally-qualified items combine, in effect—is conceptually less daunting than the physicalist one of conjuring phenomenality out of non-phenomenality: for the latter gap uniquely concerns the *production* of phenomenal quality as such.<sup>5</sup> But still, the dialectical damage is done: If the appeal of panpsychism is its promise to fill an explanatory lacuna, to make perspicuous the generation of mind, then the existence of a gap in our understanding concerning the manner in which micro-phenomenal components combine into phenomenal unities is fatal to panpsychism. It thereby loses its edge. So panpsychists must say something about the combination problem.

In what follows, I examine the combination problem, and I attempt to solve it. There are a few distinct difficulties under the banner ‘the combination problem’, and not all of them need worry panpsychists. After homing in on the genuine worries, I identify some disputable assumptions that underlie them. Doing away with these assumptions allows us to make a start on a working conception of phenomenal combination. In the final section I tackle a powerful argument against panpsychism recently given by Goff (Goff, 2009b). This ‘panpsychic zombie argument’ is built upon Goff’s understanding of the combination problem, so our treatment of the problem proves key to answering Goff’s concerns.

### 1. Combination Problems

This ‘panpsychist explanatory gap’ is not news to panpsychists—it was first noted by one of their own, William James. Another William, Seager, devised the moniker ‘the combination problem’ (Seager, 1995). In the hands of James and Seager the difficulty is even more serious than as described above. According to James, the problem is not just that we lack an understanding of how phenomenal parts can form a phenomenal whole—that we are missing the instruction manual, if you like—the real difficulty is that such combination is impossible *in principle*: for the very notion of phenomenal composition is metaphysically incoherent.<sup>6</sup> Perhaps the most well-known passage from James in this connection is the following

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<sup>5</sup> See e.g. Hartshorne 1977 for this panpsychist claim.

<sup>6</sup> I am using the verbs ‘combine’ and ‘compose’ more or less equivalently. This is because the combination problem is at root a question of how phenomenal composition, after *material composition*, can occur. I take it that if and only if phenomenal parts can combine, then they can compose a phenomenal whole.

Take a hundred [feelings], 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 1890/1950, 160)

Feelings, or, as I will say, *phenomenal elements*,<sup>7</sup> simply do not combine, James says. But why does he think this? There is intuitive force to James's playing card metaphor, but what is missing from the passage is any detailed rationale underlying that force. I think Shani has done an excellent job of bringing out what seems to have been the reasoning underlying James's rejection of phenomenal combination (Shani, 2010). Shani calls our attention to excerpts such as this one, too often ignored by physicalist proponents of the combination problem:

Atoms of feeling cannot compose higher feelings, any more than atoms of matter can compose physical things! The 'things,' for a clear-headed atomistic evolutionist, are not. Nothing is but the everlasting atoms. When grouped in a certain way, we name them this 'thing' or that; but the thing we name has no existence out of our mind. (Ibid., 161)

In this surprising passage James effectively says that phenomenal combination is impossible just because combination in general is impossible. As Shani reveals, James held an aggregative conception of parts and wholes: wholes, on this view, are nothing but aggregates of their parts. The key features of aggregates are that each member in an aggregate remains essentially separate from and intrinsically unaffected by the other members of the aggregate. This lack of internal connectedness means that a whole never forms; something that reacts to the external world in an integrated way. Consider a pile of bricks. The mass of the pile derives in a linear manner from the sum of the masses of the individual bricks. No brick is intrinsically altered by its membership of the aggregate; each (as James says of phenomenal elements) 'remains, in the sum, what it always was' (James 1890/1950, 158). If this is exclusively how parts and wholes relate, then panpsychists are indeed going to face a combination problem: the 'bricks' in a phenomenal construction are bound not to combine

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<sup>7</sup> My term is more general, since colour qualia are also phenomenal elements, for example, but are not in any clear sense 'feelings'. Feelings are only one sort of phenomenal item, and the combination problem occurs for items of any phenomenal kind, so long as they are phenomenally propertied. On my usage, the phenomenally-qualified ultimates posited by panpsychists also count as phenomenal elements. I will mostly talk in terms of the ultimates, just because my interlocutors talk in those terms and it makes discussion easier.

phenomenally-speaking, which is to say that we will always have a mere collection of isolated phenomenal elements and never an integrated phenomenal whole.

However, James appears pretty clearly mistaken about composition in general, at least as far as modern science is concerned. Examples positively abound of composite systems whose organisation and property determination is not of the merely aggregative variety. Practically any example of molecular constitution from chemistry will suffice to illustrate this. When two hydrogen atoms bond with an oxygen atom to make water, the parts are intrinsically altered by their association: the covalent bond between the hydrogens and the oxygen means that the oxygen atom takes up an electron from each hydrogen atom in order to complete its outer shell. Due to this sharing, the oxygen's natural configuration is altered; and the covalently bonded mode of existence of each atom is in an obvious way one of dependence on the other atom(s) with which it is bonded. Moreover the composite, the water molecule, clearly has properties and powers that are novel, although intelligibly derived from those of its constituents (for instance it forms a dipole). Here is a more mundane example. When you cook a lasagne, you mix together ground beef, tomatoes, onion, garlic, a bay leaf and red wine to make the ragu (at least, that's the recipe I follow). But a ragu isn't a mere aggregate of these ingredients: in that case you're not doing your cooking properly. The red wine infuses the tomatoes, changing the character and flavour of both. The sauce leaks into the ground beef, that's why the ragu tastes better when left in the fridge a day or two. The onions become garlicky. The tomato sauce becomes oniony. You get the idea. And, importantly, a culinary unity is thereby formed: a lasagne has properties, of taste, texture and so on, all of its own, which are distinct from, though the logical upshot of, the meeting and melding of its parts. The key features of these examples, as against the merely aggregative conception of wholes, are that the parts which come together intrinsically alter one another, and, by entering into a structure whereby they so condition one another, they form a unity: something which relates to the outside as an integrated whole. This last feature shows up in the production of novel, system-wide powers. In short, if James's objection to phenomenal combination is just that combination doesn't happen *in general*, then James's objection doesn't seem a very good one.

If there exists a genuine combination problem for panpsychists, it follows, it must have something to do with *phenomenal* combination in particular. We know that combination happens, all across the natural world. So if there's something distinctively problematic about the combination of phenomenal elements, it must derive from the fact of their phenomenality.

In fact I think we can discern two combination problems that spring from the notion that there's something particularly bothersome about the combination of phenomenal parts into wholes. The first of these I'll label the 'Block/Stoljar problem', and the second is the 'Goff problem', after the philosophers who formulated them. This pair of difficulties, I will argue, constitutes the real combination problem for panpsychists.

Block, cited by Stoljar, tells one of those helpful philosophical fables starring conveniently contrived aliens:

For reasons known only to them, [tiny aliens] decide to devote the next few hundred years to creating out of their matter substances with the chemical and physical characteristics (except at the subelementary particle level) of our elements. They build hordes of space ships of different varieties about the sizes of our electrons, protons and other elementary particles, and fly the ships in such a way as to mimic the behaviour of these elementary particles. The ships also contain generators to produce the type of radiation elementary particles give off. Each ship has a staff of experts on the nature of our elementary particles. They do this so as to produce huge (by our standards) masses of substances with the chemical and physical characteristics of oxygen, carbon etc. (Block 1980, 280, cited in Stoljar 2006, 120)

As the story continues, we head off to colonise the area of space where the tiny aliens live. After spending some years there, growing and eating crops and breathing the air and so on, we ingest and come to be thoroughly constituted by the alien spaceships. In Stoljar's hands Block's example—originally devised with functionalism as target—apparently reveals the shortcomings of panpsychism. Here we have conscious beings, ourselves, constituted by phenomenally-propriety items, the conscious aliens. And yet not only does it not thereby become easier to understand how our conscious minds are constructed from material ingredients, but it rather appears obvious that the assembly of phenomenally-qualified components will precisely *not* generate such a macro-mind. Putting conscious micro-aliens together does not seem to have anything to do with the consciousness of the being they compose. Moreover, the example makes clear, little minds assembled do not pool into a corporate mind. All in all this would appear an effective *reductio* of panpsychism.<sup>8</sup>

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<sup>8</sup> As it stands Block's story is not *quite* a panpsychist fable, of course: for the conscious aliens live inside spaceships, which are the genuine constituents of our bodies and brains. Moreover it is the spaceships' emission of radiation that gives them the properties of basic particles. Thus it is open to the panpsychist to reject the *reductio*, on the grounds that Block's case is not one of our genuine composition by phenomenally-qualified parts (thanks to a referee for this point). However, it is clear that Block's story can be swiftly modified to evade

So understood, we can now make perfect sense of what James had in mind, or anyhow should have had in mind, when talking of shuffling ‘windowless’ phenomenal elements, and this procedure getting us no closer to a composite consciousness. The ‘windowless’ locution likely derives from Leibniz, who expresses the idea thus: ‘There is no way of explaining how a monad can be altered or changed internally by some other creature...the monads have no windows through which something can enter or leave.’ (Leibniz 1714/1991, 68) If nothing can enter or leave a monad—a phenomenal ultimate, in our terms—if it cannot condition or be conditioned by its fellow phenomenal ultimates, and this is precisely on account of its phenomenal nature, then this indeed constitutes a genuine obstacle to phenomenal combination. We can therefore ignore James’s claim that only aggregation is possible in nature. If the *windowless thesis* is true then phenomenal ultimates will be restricted to mere blind aggregation, just as illustrated in Block’s thought experiment, and this will be on account of their phenomenality. Something about being a locus of phenomenality, it seems, entails being windowless; forever shut off from, and intrinsically unconditioned by, whichever other phenomenally-qualified items one enters into relations with, presumably no matter how tight those relations. What is it about being phenomenal in nature that has this apparent implication? We will investigate this matter in the next section; for now we need only note the shape of the Block/Stoljar problem.

Let us turn next to the Goff problem. Here is Goff:

my having, through introspection, a transparent understanding of the essential nature of my conscious experience is sharply in tension...with my conscious experience turning out to be...quite different from how it appears...i.e. turning out to be constituted of the experiential being of billions of micro subjects of experience (Goff 2006, 57)

This objection appears as the panpsychist analogue of the familiar ‘grain problem’ for physicalists. The grain problem is the difficulty of understanding how the mind can be composite in nature when consciousness exhibits a striking phenomenal unity. The brain is composed of billions of neurons, and even at higher levels of description it possesses

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this difficulty, by removing the alien ships and letting the conscious aliens themselves be our constituents, and does not seem to lose force thereby. The reader should from here on take Block’s alien story in whichever of these ways seems strongest. This thought experiment, as we will see, is closely related to Goff’s panpsychic zombie argument (see final section).

dizzily various cognitive systems and sub-systems, no few of which appear to have direct input into the state of consciousness. But then, the objection to physicalism goes, how can any system composed of units in this way be identical to—or even realise—a field of consciousness of the sort we are familiar with in our own case? For it is a salient and impressive aspect of one’s conscious field at a given time—one’s (non-instantaneous, but quantized, it lasts a second or so) present experience of sensations of different sorts across different modalities, of thoughts, of pervading emotional tenor—that it is experienced as a unity, as something integrated and whole. Poring over the smooth surface of one’s consciousness, as it were, one does not find elements that correspond to the physical, or neurological, or even cognitive texture that physicalists surmise realises the phenomenal panoply. One’s investigative phenomenal fingers just do not come across the cracks or gaps or ‘bitty-ness’ one could expect to find were the conscious field composite in nature, as physical identity or realisation seem to require.

If anything, the panpsychist’s version of this difficulty is even more pressing. As Goff suggests, it is taken to be a cardinal feature of phenomenal life that the subject of a particular phenomenal element, the pain you feel when you stub your toe for example, has a transparent sort of access to the nature of that element. We need not suppose that this transparent access amounts to the ‘revelation’<sup>9</sup> of the whole essence of a given phenomenal element: the idea that when it comes to the phenomenal we are in the special position of knowing what the item in question is in its entirety, that there can be nothing more to a given phenomenal element than what is manifest in the experiencing of it by the subject. The notion of revelation immediately provokes problems for any claim that the phenomenal has a physical nature, since this physicality is very arguably not manifest in conscious experience. We do not need to get involved with such a heavyweight and controversial epistemological thesis here. Instead, to create a problem for panpsychism we need only to construe the transparent access in question as follows. We need only suppose that one has, in the introspection of a given phenomenal element of which one is the subject, a direct and complete access to *how that element feels*, its phenomenal quality. This modest thesis concerning phenomenal availability takes no stand on whether the phenomenal has some essential nature not given in experience. All it says is that if you are undergoing a phenomenal episode, then introspection can reveal

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<sup>9</sup> The thesis is so named by Johnston (1992) who discusses it in relation to colour properties.

to you the complete facts about how that episode feels.<sup>10</sup> Now for the difficulty: If it is manifest in this way to the subject of a given phenomenal element how that element is phenomenally-speaking, how it feels, then the presence of untold hordes of phenomenal elements together making up my consciousness at a time ought to be something I can be aware of. If there are billions of phenomenally-qualified ultimates bustling away in the composite structure of my mind, it goes with their being phenomenally qualified, and being units, that the different phenomenalities of each one ought to be accessible to introspection. Yet this is precisely what we do not find. As with the conventional grain problem, the fingers of thought just do not find those cracks and gaps, or those bits and pieces. One finds a smooth phenomenal whole, albeit featuring various tranches of quality of different kinds, corresponding to different thoughts, feelings, and sensations. But these tranches are distinct things more in the way that the sea can have different waves, than in the way that a Seurat painting is made up of different dots. Hence, Goff's argument concludes, the mind is not composed of a multitude of phenomenal ultimates. To summarise: the fact of phenomenal combination, phenomenal multitude, couldn't help but be manifest to consciousness. But no such feeling of multitude is manifest, or available in any way, to consciousness. So consciousness is not composite, there is no phenomenal combination.<sup>11</sup>

We have unearthed our two combination problems. The first one, the Block/Stoljar problem, purports to show that phenomenal ultimates do not combine due to their phenomenal nature. The second one, the Goff problem, purports to show that phenomenal ultimates do not combine because their doing so would come with certain unavoidable evidence, evidence that we cannot find. There is some *a priori* reason for thinking that two is just the right number of problems to have found in the vicinity of phenomenal combination. For the Block/Stoljar problem and the Goff problem, respectively, represent the metaphysical and epistemological aspects of the combination problem. The Block/Stoljar problem is a

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<sup>10</sup> This is not to say that the phenomenal character of the episode *will* be revealed to you, you may not be concentrating on it; nor that you will correctly classify it in thought or speech if you choose to try.

<sup>11</sup> A referee objects that the panpsychist may deny that we have transparent access to the states of the ultimates that compose our consciousness. If we do not have such access, then the unity of consciousness apparent to introspection will not clash with the hypothesis that consciousness is composed of hordes of phenomenal ultimates, for there will be no reason to expect the phenomenal multiplicity to show up in introspection. But the transparency thesis as it concerns the states of the ultimates is highly plausible, not least because it is hard to understand what would be meant by saying that a set of phenomenally-qualified ultimates composed one's consciousness—composed it in respect of its phenomenality, and on account of their own—if the relationship between each ultimate's phenomenal quality and the quality of the composite consciousness were not intimate. Thus, on the assumption that we have good introspective access to our own consciousness—an assumption that anti-physicalist views in general tend to rely heavily upon—it would follow that we ought to have access to the quality of the ultimates, if they do indeed *phenomenally* compose the larger consciousness.



problem concerning the difficulty of actually combining phenomenal ultimates given their metaphysical nature. The Goff problem for its part has to do with the likely epistemic upshot of such combination, and the fact of the absence of any such upshot. It makes sense that there should be these two aspects to the problem. So we may feel with some legitimacy that we have laid bare the essence of the combination problem, and, if we can treat these difficulties, we may hope to provide the panpsychist with a considerable fillip in the dispute with her physicalist opponent.

## 2. Problematic Assumptions

There is a pair of assumptions at work behind the combination problems. We must expose them and find a way to reject them if we are to progress towards making good on the promise of panpsychism. The assumptions are as follows:

- i. *Phenomenal ultimates are themselves subjects of experience.*
- ii. *Phenomenal assembly can only be aggregative.*

As we will see, the First Assumption is what makes the Second Assumption plausible. For that reason, our main attention will be on disposing of the First Assumption. Before turning to that tricky conceptual task, however, let us observe the role the assumptions play in underwriting our two combination problems.

It is easy to see the assumptions at work in the Block/Stoljar problem. In particular, it is the First Assumption which licenses the inference that given the phenomenal nature of panpsychic ultimates, their combination will be metaphysically impossible. What Block envisages in his fable are alien *minds*, which is to say essentially discrete subjects, put together towards the composition of a further mind. But our notion of a mind, like our notion of a subject, is precisely the notion of a discrete, essentially *inviolable* sphere of conscious-experiential goings-on. My mind is separate from your mind, is separate from her mind, and so on. None of us has, nor can have, access to the consciousness of another, to *what it is like* for them. Thence, in part, comes the modern incarnation of the mind-body problem, as made vivid by Nagel (Nagel, 1974) and Jackson (Jackson, 1982) in particular. What we are terming a mind here, or a subject (for me these two terms will be equivalent), can be cashed out via the notion of a *phenomenal perspective*, as follows. Consider a cluster of experiences,

proprioceptive, emotional, cognitive-phenomenal<sup>12</sup> and perceptual, that are together associated in a single phenomenal perspective. What it means to say that these experiences together constitute this one phenomenal perspective, and not any other, can be captured by thinking about an act of introspection performed from within that phenomenal perspective. Such an act of introspection will disclose just the aforementioned experiences and *no others*, it will not disclose the set of experiences that belongs to any other conscious mind. Intuitively, phenomenal perspectives—minds, subjects—include at a time a discrete set of phenomenally conscious elements, to which an introspective act on the part of one such phenomenal perspective has access. These spheres of experience, each one bound up by the reach of its particular potential introspective access, are by their fundamental nature closed off from one another. For if there is a question over whether a certain experiential element is part of your mind or part of mine, the question is to be settled by which of our minds has (or could have) introspective access to that element. Whichever way the matter falls, we will have two distinct phenomenal perspectives here and not one. Even if it turns out that the experiential element is (somehow) introspectively accessible to *both* of us,<sup>13</sup> we still have two discrete minds on our hands. For I do not have access to the *set* of phenomenal elements that comprises your phenomenal perspective, and you do not have access to the set of phenomenal elements that comprises mine. We merely share one element; much as if, whatever else we were thinking about and feeling, we were looking attentively at the same dog from more or less the same angle. To take the case to the limit, if it obtained that my introspective access *necessarily* ranged over just the same set of phenomenal elements as yours, then we would have no choice but to conclude that we really had only one mind (subject, phenomenal perspective) here, not two. To say that there are two entails that the introspective access of one could differ as to some phenomenal element, with respect to the other.<sup>14</sup> As a conceptual exercise to confirm the foregoing, consider a case of telepathy. I implant into your mind certain memories or sensations that I have undergone, and at the same time I relive those memories or sensations. Even this does not overcome the basic boundaries around each of

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<sup>12</sup> I.e. the phenomenology of thought. It does feel some way to think about Princess Diana, or to understand what someone is saying to you. It may be that there is no *particular* way a given thought must feel, but that doesn't mean the thought can feel no way at all when it is entertained. See Strawson 2008 for more on cognitive phenomenology.

<sup>13</sup> Perhaps we are the different hemispheres in a split-brain patient: see Lockwood's (1989) breathtaking discussion of split-brain cases, after Nagel 1979. This might be what happens, I imagine, in a Vulcan 'mind-meld', as in *Star Trek*. I discuss telepathy just below.

<sup>14</sup> This is not to dispute Goff's (2009b) observation that two distinct subjects could have exactly the same (qualitatively speaking) experiences at a given time. But what is not feasible is that two subjects exist without the logical possibility of their synchronous sets of experiences differing from one another.

our phenomenal perspectives. For there is, for you, a distinctive ‘what it is like’, a realm of conscious goings-on, which may include, for example, surprise at what I am transmitting to you, and which certainly includes what it is like for *you* to undergo experiences of this kind. Meanwhile, there is for me a quite distinct ‘what it is like’, which involves the sense that I have had these sensations before, or that they are my sensations. I may wonder how you feel in receiving them. Clearly, despite having some qualitative overlap, our phenomenal perspectives are irrevocably separate. Hence, minds (subjects, phenomenal perspectives) are inviolable individuals. This is in part what is involved in the fact that each subject represents a distinctive ‘point of view’ on the world.

Now *since* minds (subjects) are fenced off from one another, they cannot combine. You cannot mix or pool minds to create a larger mind, no matter how closely you bind them together: not even when they are arranged into the structure of a brain.<sup>15</sup> This is what Block’s thought experiment makes vivid. The only manner of grouping minds is aggregative—you can pile them up, but you cannot genuinely integrate them. So, as long as a being were composed of genuine minds, each of these minds would be bound to remain separate (‘in the sum, what it always was’).<sup>16</sup> Thus we see how the First Assumption plays a key role in the Block/Stoljar problem, and how it supports the Second Assumption, leading straight to a combination problem. It is the First Assumption that generates the metaphysical problem of combination on the basis of the specifically phenomenal nature of phenomenal ultimates. The Block/Stoljar problem takes it that phenomenal ultimates are, *ipso facto*, minds; and from the essential closedness of minds it follows, as the Second Assumption has it, that phenomenal ultimates can only aggregate, not combine.

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<sup>15</sup> To be precise, *if* telepathy is possible then it seems that some mind-to-mind conditioning is feasible, but not a sufficient amount to place minds into a genuine (mental) whole: the sort of intra-structural causation required there would have to be of a high enough level to integrate the components, i.e. to make them react as a corporation to external things, and to develop novel systemic properties.

<sup>16</sup> It is tempting to imagine that two minds might ‘fuse’ in such a way that they give birth to a third mind, and in the process cease to exist themselves (a referee suggests this idea). Is this a case of the combination of minds? It is not. In the combination of hydrogens and oxygen to form water, for example, what was clear was that the constituent atoms *continued to exist*, albeit in modified form, after the integrated whole was formed. For minds to combine into a further mind, therefore, they would have to continue to exist after the formation of the whole. But this possibility—their genuine survival plus their genuine combination—is ruled out by the metaphysics of phenomenal perspectives, as described. Either the minds would be annihilated (as the referee proposes) and this would be the *spawning*, but not the composition, of a new mind, or they would continue to exist and there would therefore exist two quite separate minds, as well as perhaps a third that they had caused to come into being. On neither possibility is genuine mental combination achieved. Rather this picture seems closer to the *emergence* of a mind; but if we are emergentists we needn’t have pursued panpsychism in the first place.

Goff avoids the term ‘minds’ when posing his combination problem, but the notion of ‘subjects’ he employs does the same work.<sup>17</sup> The best way to see the two assumptions operating in Goff’s thinking is to quickly reverse-engineer his argument. Given the ‘transparent access’ thesis, Goff’s central observation is that we do not experience an aggregate of phenomenal ultimates—a collection of separate *loci* of phenomenality. Since we do not experience such an aggregate, he reasons, our consciousness is not composed of a multitude of phenomenal ultimates. This inference reveals that Goff believes the only possible manner of assembling phenomenal ultimates to be aggregative. For if he allowed that there might be other ways of arranging a phenomenal multitude, he could not move from the phenomenological claim that we do not experience an aggregate to the conclusion that our consciousness is not composed of a phenomenal multitude. Thus we see that Goff endorses the Second Assumption. But why does he think that phenomenal ultimates could only be assembled aggregatively? The plausible answer is that he thinks this because he takes phenomenal ultimates to be subjects of experience, and it is *a priori* that subjects, like minds, are discrete, inviolable spheres of mentality. You can stack them, but you cannot pool them. So Goff, too, endorses the First Assumption: in fact it drives his argument.

The two assumptions are the key to unlocking the combination problem. And the First Assumption is as we have seen especially important. Dialectical note: Block/Stoljar and Goff do not themselves suppose that ultimates are minds/subjects, of course, because they oppose panpsychism. So the way the assumptions function is that our critics take the panpsychist to be committed to the First Assumption, then the critics infer the Second Assumption from the first in the way I have indicated, thereby generating their respective combination problems. So, let us now see what we can do about rejecting the First Assumption on behalf of the panpsychist. I will argue that a phenomenally-qualified ultimate is not *ipso facto* a mind or subject of experience, even for the panpsychist. This will clear the way for us to see how phenomenal combination might be possible.

### 3. Phenomenally-Qualitied Ultimates are not themselves Minds or Subjects of Experience

There is a Quick Argument that will take us to the conclusion that the panpsychist’s phenomenally-qualified ultimates are subjects of experience in their own right. I speculate

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<sup>17</sup> The same goes for the discussion of the combination problem in Goff 2009a, and the concept of subject is also essential to Goff’s (2009b) panpsychic zombie argument, as we will see. This vindicates my decision to treat ‘mind’ and ‘subject’ as equivalent.

that this argument provides the reason why many panpsychists hold that the ultimates must be subjects, but I will show it to be unsound. Panpsychists should not in fact be moved by the argument; and being so unmoved, they will be able to reject the First Assumption.

The Quick Argument proceeds from a natural claim concerning phenomenal qualities, namely that where they exist they must be experienced by some subject. ‘There cannot be experience without an experiencer’, it is said.<sup>18</sup> The next step is simply to apply this apparent truism to the panpsychist’s ultimates. On panpsychism, phenomenally-qualified ultimates compose the entire material universe. Very many, the vast majority, of those ultimates will therefore exist outside of any commonly-recognisable subjects such as ourselves or higher animals. A great deal of them will just be composing interstellar clouds of gas, for example. But it will not do, on the present conception, to have instances of phenomenal quality existing without being experienced by anyone at all. So the requirement that every instance of phenomenal quality be attached to a subject works to press each phenomenally-qualified ultimate into service as its own subject. Each ultimate must experience (at least) its own phenomenal qualities. That is the only way to guarantee that there are no unexperienced phenomenal qualities floating around.<sup>19</sup> Result: every panpsychic ultimate is a subject. That’s an awful lot of subjects, I take it, by anybody’s lights.

Let us face some facts. As a panpsychist, one’s options are to say that there are phenomenally-qualified ultimates everywhere, and that there are also, consequently, subjects of experience literally everywhere, or, on the other hand, to deny that being phenomenally-qualified suffices for being a subject of experience. Quite aside from how this will help us with the phenomenal combination problems in the long run, panpsychists should wish to avoid the *Subjects Everywhere* claim, I think, for the sake of the credibility of their position. If the cost of solving the mind-body problem is that there are subjects everywhere, it is not a cost most philosophers will ever want to pay, nor is it a cost that we should pay. Panpsychism has been unfairly likened to the ‘metastasising’ of the problem of consciousness throughout the universe.<sup>20</sup> The charge is however a fair one when the solution to how there can be minds in a material world is simply to say that all the bits of material are minds already. We really

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<sup>18</sup> Strawson has argued in this way, see his 2003. He is also committed to the argument’s conclusion.

<sup>19</sup> For the argument to cover those ultimates composing ourselves and other clear-cut subjects, we simply have to note that any of our current ultimates can, and at some point does, exist in isolated form (e.g. before and after we exist).

<sup>20</sup> A friend of a friend said this I’m told, as is the way with these things.

should want to say something remotely interesting about how minds come about, not simply take them so thoroughly for granted.<sup>21</sup> It is not just that this position is implausible, it is that solving practically *any* problem in this way is fundamentally boring. In fact this sort of manoeuvre is boring in such a deeply metaphysical way that this alone indicates, from what we know of the workings of the world, that what we have on our hands is far from the correct solution. The version of panpsychism I favour does not run this risk: it has an interesting and substantive generation story to tell when it comes to conscious minds as we know them. We will come to an abridged version of this story in due course.<sup>22</sup>

These reasons do not constitute the only, or by any means the most important, ground for rejecting the thesis that the panpsychist's ultimates are subjects, however. The main reason for rejecting the thesis is that there is an incoherence involved in the idea of essentially phenomenally-qualified ultimates which, of necessity, provide their own subjects of experience. Before arguing for this claim, I would like to call upon some moral support. Although the great weight of philosophers undoubtedly hold that phenomenal qualities cannot exist without subjects to experience them, I am in decent company in rejecting this claim. Lockwood (1989), Rosenthal (1991), Foster (2000), Rosenberg (2004), Unger (2006), Leibniz (1714/1991), and Hume (1739/1978) all seem to agree with me.<sup>23</sup>

The argument I want to develop is based upon an argument due to Foster, against a certain conception of the sense-data theory of perception (Foster 2000, Ch. 3.5). On the conception of sense-data in question, they are sensory entities that purport to be externally-located objects. For example, one such sense-datum may be a red-coloured object in the visual field that purports to be a red London bus. In experiencing the sense-datum the subject is invited to believe that there is a red London bus before her. The details and feasibility of the mechanism by which subjects are said to perceive the outside world on the sense-data theory need not concern us, however. What concerns us is the claim, which Foster attacks as

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<sup>21</sup> This applies even if, as a referee suggests, the ultimate-minds are minds of a 'more basic' sort than ours, whatever this means.

<sup>22</sup> All my panpsychism takes for granted is phenomenal qualities, not minds. Isn't this position equally vulnerable to the 'boringness' objection, however? Shouldn't we seek to derive phenomenal qualities too, instead of transplanting them into micro-ontology? It's a question of what is and what isn't derivable, is the answer. I hold that phenomenal qualities are not derivable from quality-less underpinnings, for the usual reasons. In contrast, I have a story—as promised a short version features shortly—that will take us from subjectless phenomenal ultimates to minds/subjects. So I believe that my position *metaphysically takes for granted* the bare minimum, which is the most we can aspire to.

<sup>23</sup> Unger seems to be able to make sense of the idea of subjectless phenomenal qualities. And Leibnizian monads are phenomenally qualified but are decidedly not minds. Hume, famously, detected many phenomenal elements in his consciousness, but not even one subject.

incoherent, that a sense-datum is to be understood as *a sensory item whose existence is restricted to the episode of being experienced by the subject in question*. As Foster explains this conception of sense-data

for each sense-datum *x*, there is an episode of presentational awareness *y*, such that *x* is the object of *y*, and the fact of *x*'s being the object of *y* fully covers, and necessarily covers, all that is involved in the occurrence of *x* as a concrete ingredient of reality. (Foster 2000, 164)

There are two important disanalogies to be noted between sense-data and (instances of) phenomenal qualities; nonetheless I submit that the core of Foster's characterisation of sense-data applies to phenomenal qualities, as they are conceived under the Quick Argument. The disanalogies are as follows: First, phenomenal qualities are not *objects* in the way that sense-data are hypothesised to be; phenomenal qualities are rather properties of objects—for example of panpsychic ultimates. Second, phenomenal qualities need not—at least, not in the absence of further argument—be construed as *perceptual objects*, as on an act-object model of perceptual experience. Nevertheless, we can say the following about phenomenal qualities, which confirms that Foster's description indeed applies to them in the salient respects: Phenomenal qualities are real features of the world which, on the present hypothesis, cannot exist except in so far as some subject is aware of them. They are not objects of which the subject is aware after an act-object model. Nonetheless they are real constituents of reality of which the subject is aware in having perceptual experience. If we are realists about phenomenal properties—which the panpsychist must be—then of (for instance) a given instantiation of phenomenal redness, it is straightforward to say that in having an experiential episode involving this phenomenal redness a certain subject is aware of the redness; of what it is like, its phenomenal quality. The thesis that phenomenal qualities cannot exist unexperienced implies that episodes of awareness of phenomenal qualities by subjects positively exhaust their being as ontological items, and necessarily so. Thus the being of this instance of phenomenal redness does not outrun the subject's awareness of it; its nature as an ingredient of reality is necessarily exhausted by figuring in this awareness. So the core of Foster's account of sense-data indeed applies to phenomenal qualities, as presently conceived.

What, then, is wrong with the notion of existents whose being is restricted to, and so exhausted by, episodes of awareness by subjects? According to Foster, such an item will

either *derive its existence from* figuring in such awareness, or else its existence *will consist in*, will take the form of, figuring in such awareness. But neither of these possibilities is coherent. The first option amounts to saying that the fact of the existence of the item is constituted by the fact of its figuring in the awareness of a given subject of experience. Yet this idea, of one fact being constituted by another fact, clearly requires the obtaining of both facts independently of one another, logically speaking. The item cannot derive its existence from figuring in awareness unless it already exists, in a logically prior sense. For unless the item exists in a logically prior sense, there is simply nothing that is available for the subject to be aware of. Therefore, an existent cannot derive its being from the fact of figuring in the awareness of a subject. That would be deriving its existence from a fact that concerned itself, without the need first to exist, which is incoherent.

The second option is not so blatantly incoherent as the first: it amounts to saying that the precise mode of being of the existent in question lies in its figuring in an episode of awareness; phenomenal qualities are to be thought of as *essentially presentational* items. The problem here is that this idea violates our conception of what awareness involves. Awareness is a relation between two items: *a* is aware of *b*. But this presupposes that *b* has a logically possible existence outside of *a*'s being aware of it (and so outside of awareness in general). This is just to say, in Foster's words, that in a case of awareness there exists something 'on which the awareness can get purchase' (Foster 2000,168). It is incoherent to suppose that the existence of a certain token of phenomenal redness simply *consists in* a subject's awareness of it. For unless the token of phenomenal redness had a claim to existence outside of this awareness, there would exist nothing, no feature of reality, for the subject to be aware of in the first place. A subject could not be said to *become aware of* an instance of phenomenal redness if the phenomenal redness did not exist except in so far as the subject was already aware of it. This is not a point concerning temporal priority, but concerning logical priority. If the quality were so built in to the episode of awareness, then it could not properly be something of which the subject was aware. Rather, the property, the phenomenal redness in this case, could at most be a modification of the awareness itself. Thus 'phenomenally red' would characterise a *manner* of being aware (of something other than the phenomenal redness). The episode of awareness in question would really be a case of *being-aware-redly*, with the phenomenal redness restricted to an adverbial form of existence. But this situation would not be one in which the subject could be said to be aware of a phenomenal *quality*, phenomenal redness, as such. If I drive slowly, for instance, that does not imply that there is a



property of slowness belonging to the event of driving. All it means is that I drove in a certain way.<sup>24</sup> The aim of adverbialism is precisely to do away with instantiated phenomenal qualities as such.<sup>25</sup> Now, adverbial approaches to sensory quality may be appealing to those desirous to avoid the reifying tendencies of the sense-datum theory, but as a means of understanding the nature of phenomenal properties they are not available to the panpsychist. The panpsychist must understand phenomenal properties to be real qualities, not mere adverbial modifications—manners of sensing. For phenomenal qualities are, on panpsychism, the world-building intrinsic natures of the ultimates. Adjectival—not mere adverbial—existence is what is called for. The panpsychist is committed to phenomenal properties as Blockean *mental paint*, in other words.<sup>26</sup>

The upshot of our Foster-inspired ‘Independence Argument’ is this. Phenomenal qualities, as the panpsychist conceives of them, cannot be of a nature such that they are necessarily restricted to episodes of awareness of them by subjects. In order to be the sort of real qualities of which a subject could come to be aware at all, phenomenal qualities must have a logically possible life outside of figuring in episodes of awareness.<sup>27</sup> There simply cannot be a property, a real feature of reality, which gains its existence precisely and only through someone’s awareness of it. Not even the property of *being an experience* is of that sort. For an experience’s being what it is does not derive from or consist in anyone’s awareness of it; rather, experiences are those happenings *via* which we can be aware of anything at all. Therefore, the first premise of the Quick Argument, that phenomenal qualities cannot exist unexperienced, is false. In fact, phenomenal qualities *must* (logically) be capable of existing unexperienced.

*(A pair of parenthetical postscripts to the Independence Argument:*

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<sup>24</sup> C.f. Van Steenburgh ‘Quickly’ specifies the action intended, not by property ascription, but by contrast with ‘slowly’ (1987, 378).

<sup>25</sup> C.f. Butchvarov’s explication of adverbialism ‘Let us take the example “Something appears white to me” and its paraphrase as “I am appeared whitely to”. We must keep in mind that we are asked [by the adverbialist] to understand the latter in such a way that it does not entail...that something is white.’ (1980, 256). If nothing is white, then there is no whiteness, and no phenomenal quality as such.

<sup>26</sup> It is not always clear that adverbialists eschew mental paint: consider this statement by Broad ‘It is about equally plausible to analyse a sensation of a sweet taste into an act of sensing and a sweet sensum, or to treat it as an unanalysable mental fact, having no object, but possessing the property of sweetness.’ (1923, 254-255). But if the mental occurrence possesses sweetness, then the quality sweetness belongs to it; it is not a mere matter of experiencing after a sweet manner. Perhaps Broad’s view is in fact closer to what Jackson 1976 calls the ‘state theory’, as distinct from adverbialism proper.

<sup>27</sup> Hartshorne sees the same point from the reverse angle: ‘Experience, awareness, is never simply of itself, but is always a response to a given...Experience is a partly free, self-creative response, not to that very experience but to something else which must be there to make the experience possible.’ (1974, 471).

i. There's a debate about the location of phenomenal qualities like colours: do they exist only as mental features, or are they features of external objects? The naïve realist thinks that phenomenal colour qualities are contributed to perceptual experience by external objects, whose properties they properly are. Nobody who has this conception of phenomenal colour qualities imagines that they depend upon our awareness of them—that their existence is restricted to episodes of human (or animal) phenomenal consciousness and exhausted by figuring in such episodes. Colours, by common sense, are capable of going on existing whether or not they figure in some subject's awareness. Now, whether phenomenal colour qualities are construed as internal or external makes no odds on this matter. Either way they can be real, and more or less physical, properties. The idea of real properties restricted to and exhausted by episodes of awareness of them by subjects is unacceptable when phenomenal colour qualities are construed as external. This would constitute their disappearance as real qualitative properties, and their re-incarnation as mere phantoms. The move is just as unacceptable when they are construed as internal, and for the same reason. This is not to say that every possible phenomenal quality exists for eternity whether experienced or not. There is no need to say that. What is required is just that phenomenal qualities not be *of necessity* restricted to episodes of awareness of them; that their nature guarantees them a *logically possible* existence outside of these episodes. This is what they need to be real features of reality and potential qualifiers of experiential episodes.

ii. Common sense makes ample conceptual room for unexperienced phenomenal qualities. For instance, it seems that one can be woken up by a pain (or sound). But to be woken up—brought to consciousness—by a pain requires that the pain exists before you come to awareness of it. If we balk and say that a *physical correlate* of the pain woke you, then we deny that the pain *qua* pain woke you. For the pain *qua* pain to wake you, i.e. on account of its quality, that quality had to have existed unexperienced. The other option, of claiming that we are *only* ever woken by pains when already phenomenally conscious of them in dreams, is a strained alternative not demanded by our commonsense conception.)

With the rejection of the first premise of the Quick Argument, that phenomenal qualities cannot exist unexperienced, we are now also able to reject its conclusion, that every phenomenally-qualified ultimate is a subject. Having phenomenal qualities does not entail that an ultimate is a subject, for there is now no metaphysical requirement to secure the constant experiencing of every instance of phenomenal quality in existence. Consequently, the panpsychist is now free to canvass the idea of phenomenally-qualified ultimates which are

not subjects. She may, therefore, reject the First Assumption underlying the combination problems.

#### 4. *Mental Chemistry (or: Phenomenal Bonding)*<sup>28</sup>

With the rejection of the First Assumption, that phenomenally-qualified ultimates are themselves subjects of experience, we have cleared the way towards seeing how phenomenal combination might be possible. I have argued that what was motivating the endorsement of the Second Assumption by proponents of the combination problem, that phenomenal assembly could only be aggregative, was prior endorsement of the thesis that phenomenally-qualified ultimates are subjects.<sup>29</sup> For the essentially discrete nature of subjects (minds, phenomenal perspectives) was taken to ensure that no amount of Jamesian ‘shuffling’ could genuinely integrate them. But if phenomenally-qualified ultimates needn’t be subjects, as I have argued, then support for the claim that phenomenal assembly could only be aggregative disappears. We are now free to describe a positive conception of phenomenally-qualified ultimates on which they can do much more than just aggregate. What is that conception? It is the job of this section to evoke it, and then to speculate as to the mechanics of phenomenal combination. We also need to say something about how genuine subjects, beings like ourselves, arise on the present picture.

As a first step, the conception we are going to be in the business of developing has a pair of salient features that we can indicate in the abstract. What we want to imagine are phenomenally-qualified entities, but entities that are not themselves subjects of experience, and whose qualities are perfectly capable of existing unexperienced. To help us arrive at a positive conception of such entities I want to appeal to some of our commonsense thinking about *colour*, as it putatively exists as an external, mind-independent feature of the world. We, in the everyday mode, think of objects as straightforwardly coloured. For example, we think of a red London bus as being straightforwardly red, much as if the redness were painted over the surface of the bus in a quite objective way (of course, what accounts for the redness of the ‘paint’ is something we don’t consider, in this mode). As part of this conception, we take it,

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<sup>28</sup> This term is Goff’s (see his 2009b). I prefer ‘mental chemistry’ because, as alluded to earlier, the ingredients in a chemical composition are intrinsically changed by being assembled, which is an essential feature of genuine composition on the present understanding. This feature is also important to the mechanics of our model of phenomenal combination, as we see below. Mere bonding doesn’t carry this implication.

<sup>29</sup> Endorsement *on behalf of* the panpsychist, of course, for whose internal position the first assumption was supposed to produce difficulties.

in an easy and uncomplicated way, that the bus is still red when we are not looking at it, and even when no-one is looking at it, as when it is waiting in its garage overnight. What is the form of this conception of the bus as still red even when unobserved? If pressed on this point, we are likely to say something like that the bus has just the quality it has when we are looking at it, it is still *being red*, ‘radiating’ redness in a sense, even when no-one is there to enjoy it. It is natural to go dispositional next: to say that the bus is such that were someone there to see it, it *would* look red to them. But we only employ such a dispositional way of thinking, I believe, to home in on an occurrent quality we unreflectively consider the bus to have, *viz.* that of being red in an ongoing, positive way. We have, on the commonsense way of thinking, no difficulty with the notion of qualities which exist with no-one there to experience them.<sup>30</sup> I suggest we use this commonsense model to think now about unexperienced instances of phenomenal quality. We can, to take a next step, attempt to imagine a patch of *phenomenal red*,<sup>31</sup> now as experienced by one of us, now as experienced by nobody, but still ‘radiating’ redness, much as we take the lonesome red London bus to do.<sup>32</sup> Next, consider that this phenomenal redness permeates the spherical volume of a particle, a panpsychic ultimate.<sup>33</sup> We have not yet been forced to think of this ultimate as itself a subject, and we must resist any temptation to do so at this stage. If we have got this far, we are well on the way to a positive conception of the required phenomenally-qualified ultimates. We need only note that the account given so far in terms of phenomenal *colours* is artificially restricted. I think we find it easiest to conceptualise in terms of these colours, but we must allow that the phenomenal qualities of the ultimates, especially those not engaged in constituting human beings, may be quite alien to the qualities we are acquainted with. Phenomenal colours, as used in our conceivings, are really just analogous to the true phenomenal natures of the ultimates.<sup>34</sup> Many will no doubt feel that the notion of unexperienced phenomenal qualities

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<sup>30</sup> Smells provide another good example: if a bad smell lingers in a place, we tend to think of the unpleasant scent hanging around, i.e. that very quality we detect when we smell it, even when nobody happens to be where the smell is.

<sup>31</sup> I.e. a quality that can figure in phenomenal consciousness, as distinguished from the commonsensical (and perhaps non-existent, if popular dispositional accounts of external colours are correct) redness of the bus.

<sup>32</sup> Care is needed with the idea of ‘radiating’ in this context, however. For *phenomenal redness*, as a quality of an ultimate, is not—or need not be—a property that affects light rays, in the way that surfaces of red objects do. Therefore it is not a property that is visible to us in the normal way. Access to phenomenal qualities can only come from inside the system to which the quality in question belongs. I turn to this point in a moment, in connection with the composition of subjects. By ‘radiating’ here, I therefore mean only to indicate that the patch is phenomenally red in an ongoing, positive—i.e. not merely dispositional—way.

<sup>33</sup> I have firmly in mind here the sorts of imagining Unger asks us to engage in throughout his 2006. Phenomenal colours are very useful for such conceiving, because they seem to fill space in a straightforward way.

<sup>34</sup> Of course there will be some ultimates whose phenomenal quality we know perfectly well: *viz.* those currently composing our conscious field, perhaps on the model that comes shortly below.

is absurd. But I take it that with the support I have provided for the notion (the Independence Argument above, and now this exercise in positive conceiving) the onus is on these philosophers to provide some argument for their claim.<sup>35</sup> Otherwise one suspects that they are simply giving vent to a philosophical prejudice.

It must be said that with respect to the dialectic the main part of our story is now complete: we have disposed of the notion that the panpsychist's ultimates must be the subjects of their own phenomenal quality, and have made some effort towards arriving at a positive conception of the subjectless phenomenally-qualified ultimates. Since the main obstacle to phenomenal combination was the assumption that panpsychic ultimates are subjects, we have effectively done enough to dissolve the combination problems. As against Block/Stoljar, whereas the combination of minds might be impossible, there is nothing obvious to get in the way of the combination of subjectless phenomenal ultimates. As against Goff, we will not detect a phenomenal aggregate in introspecting consciousness just because no mere phenomenal aggregate is present. What there is instead, what each of our phenomenal perspectives is constituted of, is the smooth integration of a horde of phenomenal ultimates: a phenomenal unity, made possible by their subjectless nature.

Still, someone might reasonably ask at this point that we provide something in the way of a positive conception of the combination of the phenomenally-qualified ultimates just conceived, as well as of the relation between these ultimates and the conscious minds (subjects, phenomenal perspectives) they compose. What comes below is not *in its details* essential to the present treatment of the combination problem—I take the essential part of that treatment to consist in our disposal of the First Assumption—so it should be taken by interested theorists as a possibly useful, but by no means compulsory, piece of speculation as to how progress might be made towards satisfying completion of our metaphysical picture. Of course *some* positive conception or other of phenomenal combination will have to be provided by a theory of the present sort. But since there are a variety of ways that such a conception might be filled out, what follows serves, at a minimum, only to indicate the possibility of such an account.

To take us towards the combination of the panpsychic ultimates just conceived, the metaphor-model I will appeal to is that of paint patches on a canvass. Paint patches, as freshly

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<sup>35</sup> The literature is conspicuously light on any argument to this effect, instead authors typically invoke the apparent truism that phenomenal qualities cannot exist unexperienced and proceed from there.

painted on, are qualitative elements: here a dab of red, there a splodge of green, over there a blue-ish blotch. They helpfully resemble phenomenally-qualified ultimates, as presently imagined: we just described three distinct qualitative items—paint patches—each individuated by its quality and position, much as we could have isolated three different phenomenally-coloured patches of your visual field now, or three phenomenally-qualified basic particles. Paint patches are distinct items, distinguished in much the way that we distinguish instantiations of colour qualia. But they are not fenced off from one another, nor is their only possible mode of arrangement aggregative. A Seurat is an example of the mere aggregation of paint patches: in *La Grande Jatte* every point of paint remains separate from the others; it is distance from the canvass that leads us to see a unified image in the pointillist style. Goya's *La Maja Desnuda*, a more painterly painting, is quite different. Goya's flesh tones are remarkable, the warmth of skin, the richness of the rendering of his beloved's colouring, but also the transparency; the hint of a blue vein here, the tense line of a muscle, a little darker, there. Goya's paint patches are perfectly integrated, together a unity; the colour of the *Maja* at any point is either a pure 'plodge' of paint put down on the canvass, or is the result of *blending* with the paint immediately surrounding. To be more precise, we can discern three ways in which the paint patches exist in integrated form with one another. A given paint patch, first, may be the result of the *mixing* of two (or more) distinctly hued paint plodges: in this case the prior qualities cease to exist in their former independent state, persisting in the qualitative traces they contribute to the unified patch they have formed. Second, two distinct patches may *overlap* one another, by being blended into one another at the edges. At the point of interface these patches intrinsically alter one another's quality, producing some new, related, quality as upshot. Third, two patches may exist side by side, or some distance away from one another, without there being any obvious qualitative interaction between them. However, when we consider their integration into the qualitative field—the canvass—as a whole, we can note the connection between them. Each contributes to the overall qualitative impact of the canvass, and they may affect each other without having to mix: what the phenomenon of the non-transitivity of colour-similarity confirms is that the juxtaposition of colours of different hues affects the overall quality experienced. In painting, one deploys qualitative elements which can, in arrangement, alter one another's intrinsic character. This mutual conditioning is part and parcel of the integration of the qualitative elements into a whole, with systemic powers all its own: the overall phenomenological upshot of all the composing elements. Qualitatively distinct elements can combine into a

smoothly variegated qualitative whole. This, a painted canvass, is the model I suggest we have in mind when we think of phenomenal combination.<sup>36</sup>

We are already perfectly well aware of phenomenal combination, if we care to think about it. One drinks a decent red wine with the Sunday roast beef because the flavours of roast beef and red wine pleasingly interpenetrate. Each flavour in isolation is a distinct phenomenal element. Their coming together yields a whole qualitatively distinct from either of the parts, though the combinatory upshot of their properties. This happens through the two elements fusing together, forming a genuine phenomenal unity which is the logical product of its ingredients. This is the model for a phenomenally composite, but not merely aggregative, state.<sup>37</sup>

Suppose that on panpsychism some subset of the ultimates composing a person, perhaps those realising the relevant parts of her brain, are those which constitute her conscious field, her phenomenal perspective. A human subject's overall phenomenal state at a given time, then, I take to be the combination of the phenomenal characters of these individual ultimates. *Pace* James, and Block/Stoljar, and Goff (and Leibniz), each phenomenal ultimate does not (or need not) remain 'in the sum, what it always was'. Rather, the phenomenal ultimates mutually condition one another, as they phenomenally fuse. They form a phenomenal unity, composed of a phenomenal multitude, where the quality of the whole is the logical product of the qualities of the ingredients.<sup>38</sup> This complex unity, once formed, is responsive to (through being able to represent, through being structured) states internal and external to it. There will now be top-down conditioning of the quality of the composing ultimates, through modification by the senses and internal system dynamics (e.g. cognitive interactions). Such a unity is, I suggest, properly designated a 'subject' or 'mind'.

However, it may well seem that I am not entitled to use of the term 'subject' at this point. For was not the whole point of the Independence Argument to banish subjects from the

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<sup>36</sup> What we have just considered is synchronous combination: the composition of a qualitative field at a moment. The same idea of the *overlap* of qualitative instances may also plausibly be used to account for the ongoing unity of a phenomenal field over time: qualitative instances succeeding one another may overlap in the way that co-existing instances do as they compose a field. James gestures at this diachronic version of qualitative overlap in his 1909, though he strangely finds himself having to give up on logic to allow phenomenal combination. This is because he fails to see, as yet, that the ultimates need not be subjects.

<sup>37</sup> What are the rules of phenomenal combination? That is, what is the logic that takes qualitative instances  $x$  and  $y$  and produces qualitatively-different instance  $z$ , for example? I simply don't know. But I do not need to know. My present task is only to show how phenomenal combination might be possible. The combinatory rulebook is something that remains to be investigated.

<sup>38</sup> Again, according to rules I don't pretend to grasp as yet.

panpsychist's micro-ontology? In that case we have, it seems, generated a new sort of explanatory gap. We may have explained (in principle) how phenomenally-qualified items can combine, but we must also explain how subjectless items give rise to a subject. How do we get subjectivity out of the subjectless?

The answer to this important question—important because if we cannot answer it the whole panpsychist explanatory project is back to square one—lies in proper consideration of the ontology we are building. On panpsychism, the phenomenal quality of a system is something available only from inside the system. As Hartshorne ably puts the point: ‘Viewed from without, or through the sense organs, the psychical [phenomenal] appears as behavior, but from within, or in itself, it is feeling, memory, anticipation, and the like.’ (1977: xx) The notion of ‘within’ here is to be captured by the concept of *constitution*. The manifold phenomenal quality of a conscious system is accessible only to that system because the phenomenal quality in question is, through being carried by the relevant ultimates, *constitutive* of that system. For experiencers looking on from outside, the internal phenomenal character of another system is inaccessible. Since these outside observers are not constituted by any of the ultimates that carry the phenomenal quality of the foreign system, they cannot experience said quality. They can only be causally affected by the alien system, which is not to have access to its intrinsic quality. This is just to capture the essential closedness of minds/subjects that we noted earlier in discussion of our combination problems, particularly the Block/Stoljar problem. It is, further, the essentially *structured* (composite) nature of the phenomenally-qualified systems posited that enables them to be subjects of their own phenomenal qualities, something beyond the reach of simple ultimates. A system composed of phenomenally-qualified parts may utilise some of those parts to carry information about, to represent, the phenomenal quality of other parts. I hypothesise that the *phenomenal representation* by one phenomenally-qualified item of the phenomenal quality of another such item occurs through the first item taking on the phenomenal quality of the second. The capacity of the first item to take on the quality of the second item will be enabled, the idea goes, by the two items being suitably causally related within the structure of the subject. Such causal relating, we may speculate, is a good deal of what the brain is for.



Conscious awareness as we know it is therefore to be thought of as *phenomenal representation*, the representation of phenomenal quality by phenomenal quality.<sup>39</sup> Further pursuing the speculative thread, here is a sketch of a model of perceptual consciousness for one of the subjects we are contemplating. The subject's body has senses (there is nothing problematic about this, it's just the idea of the panpsychist's ultimates composing part of our conventionally-conceived material world). The visual sense, to simplify the case, is attached to a *phenomenal screen*, we might theorise. The phenomenal screen is a lattice of ultimates (in the brain) arranged so that their corporate phenomenal quality is a function of the input from the visual sense. So the idea would be that when confronted with a red thing in suitable light, the signal propagated to the phenomenal screen causes it to turn phenomenal red. Subjectival awareness of this perceptual representation is then accomplished by the aforementioned mechanism of phenomenal representation: a second phenomenal screen, this time corresponding to the central perceptual/experiential domain of the subject, receives a signal from the visual screen, and represents what it finds there, i.e. it turns, in some portion, phenomenally red also. This central screen, however, also receives inputs from the other externally-facing senses and their respective phenomenal representations, and from 'screens' responsive to the internal (proprioceptive, emotional, etc.) states of the system too. As these are registered in the central subject-screen, we build up a phenomenal representation of the complex state of the whole system, the organism. This phenomenal representation of phenomenality, connected to decision-making and motor circuits, appropriately insulated and identified through its constitutional boundary, and able to carry information about the environment, to act upon this information, and to exist as a standalone locus of *executive representational phenomenality*, in contradistinction from other such systems populating the landscape, is our subject, I propose. To *be* such a representational system is to be conscious in the way that we recognise each in our own case. This is only the briefest sketch of how to go about it, but I hope I have said enough for us to be able to see one way in which the conceptual bridge might be built from subjectless ultimates to subjects as we know them.

##### 5. *Goff's Panpsychic Zombie Argument*

Goff has recently proposed a formidable argument against panpsychism (Goff, 2009b), in addition to his epistemic version of the combination problem that we dealt with above. In this section I will address this argument in the light of our discussion so far, by wielding against

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<sup>39</sup> What we have here is a sort of higher-order thought theory of consciousness, with the phenomenal qualities of the represented and representing states taken as irreducible.

Goff the philosophical resources we have developed. This will achieve the aims of offering a much-needed response to Goff's argument, providing a testing ground for our account, and will also help us to understand better the conception of panpsychism presently being proposed.

The focal point of Goff's argument is panpsychism's claim to account for the conscious state of a being such as one of us. This overall state of creature consciousness, corresponding more or less to what we have described as the phenomenal perspective of a given person, Goff labels 'o-consciousness' ('o' for organism). Through clever adaptation of the zombie argument against physicalism, Goff aims to show that panpsychism cannot explain o-consciousness. If Goff's argument is sound we would be back to where we were at the outset, when we fretted over the combination problems. If panpsychism faces the explanatory lacuna suggested, then it loses its key source of appeal and is left dialectically adrift with respect to its more conventional physicalist competitors. In such a situation panpsychism's ascription of phenomenality to the ultimates comes to look decidedly ontologically overblown, and the theory is most likely to be abandoned.

Goff imagines just the situation I described in the previous section, whereby the relevant (consciousness determining) part of the brain of one of us is constituted by phenomenally-qualified ultimates. The subject we will concentrate on is Goff himself. His phenomenal perspective is to be characterised as follows: 'a unified experience of feeling cold, tired, smelling roast beef, etc.' (2009, 13). Goff further imagines that at least one of the ultimates involved in constituting his consciousness instantiates phenomenal coldness, one or more others instantiate the quality of tiredness, and some others instantiate the smell of roast beef (and so on). In other words, for each phenomenal element making up his overall o-conscious phenomenal perspective, Goff asks us to imagine that there is an ultimate (or ultimates) belonging to the consciousness-constituting part of his brain which instantiate the relevant quality. So far this sounds very much like the picture we were developing above of the phenomenal composition of a phenomenal perspective.

However, Goff claims that it is perfectly conceivable that his ultimates should have the qualities described, while he himself does not enjoy the unified experience of feeling cold, tired and smelling roast beef. In fact, he says, it seems conceivable that his ultimates could have the qualities described while he enjoys no o-consciousness at all. Thus the Goff we are imagining might well be a *panpsychic zombie*: a creature with just the phenomenal setup the

panpsychist assures us provides for and explains the fact of o-consciousness, but which lacks any such o-consciousness. We need not worry whether panpsychic zombies are possible; if they are even conceivable then panpsychism loses its claim to be able to account for consciousness in superior fashion to physicalism.<sup>40</sup>

The panpsychic zombie argument would not be an especially strong one if it depended on the bare claim that given the panpsychist's favoured arrangement of phenomenally-qualified ultimates, still a zombie remains conceivable. For what would result would likely express a mere clash of intuitions: the panpsychist is liable to insist that if the relevant ultimates have the requisite qualities then it is impossible for the imagined Goff to lack o-consciousness, while the proponent of the panpsychic zombie argument will simply demur. Even the zombie argument against physicalism does not rest on a bare claim of physical zombie conceivability: instead that argument, indeed the zombie thought experiment, depends upon some important further considerations. In the case of the anti-physicalist zombie argument the relevant further reasoning is in essence that since consciousness is not a functional property, no physical/functional configuration can guarantee its instantiation; indeed every such configuration will seem compatible with its absence: hence the conceivability of physical zombies.<sup>41</sup>

What is the corresponding further reasoning underpinning Goff's panpsychic zombie argument? In an important passage, Goff says

my o-experience is a *different* conscious experience with a different phenomenal character to each of the conscious experiences I am supposing to be had by each of my ultimates in this example. One of my ultimates has an experience as of feeling cold, one has an experience as of feeling tired, one has an experience as of smelling roast beef, etc, whilst my o-experience is an experience as of *having a unified experience* of feeling cold, tired and smelling roast beef, etc. The existence of a subject having a

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<sup>40</sup> As Goff (2009b) notes, an '*a posteriori* panpsychism' that modelled the connection between consciousness and its realising base after *a posteriori* physicalism, i.e. positing a brutally necessary *a posteriori* connection with no transparent conception attached to it (thus allowing for the conceivability of zombies but not their metaphysical possibility), would be distinctly unsatisfying (not to mention prone to attack on the basis of parsimony considerations). It is the *modus operandi* of panpsychism to proffer an explanation of the generation of consciousness. (see Papineau 2002 for an example of *a posteriori* physicalism, based on considerations relating to the special nature of phenomenal concepts).

<sup>41</sup> I have in mind especially Chalmers's (1996) influential formulation of the zombie argument. See also Kirk 1974 for an earlier formulation. Zombies seem to trace back (like much else) to Leibniz, specifically to his mill analogy (1714/1991, 70). This led Leibniz to say that phenomenality ('perception') must be present in the parts that make a mind, since it could never appear through the interaction of non-phenomenal parts. Having thus sensibly embarked on the road to panpsychism, Leibniz promptly gave unfortunate early birth to the combination problem, by stipulating that his 'windowless' monads could not combine.

unified experience of feeling cold and tired and smelling roast beef does not seem to be a priori entailed by the existence of a subject that feels cold, a subject that feels tired, and a subject that smells roast beef. (Goff 2009b, 14)

To make complete sense of Goff's argument we need, next, to consider a principle he introduces, the principle of 'no summing of subjects', or NSS

**(NSS):** The existence of a number (one or more) of subjects of experience with certain phenomenal characters, never a priori entails the existence of any other subject of experience (Goff 2009b, 17)

And now we can see the whole shape of Goff's argument, neatly encapsulated by him as follows

I commit myself to a large number of subjects of experience, each instantiating their own conscious experience with a determinate phenomenal character...I imagine a subject of experience that feels cold, a subject that feels tired, a subject that smells roast beef, etc. But...I don't seem to commit myself to the existence of any subjects of experience beyond the basic experiencing ultimates themselves. As NSS states, the existence of a certain number of subjects of experience with certain phenomenal characters does not entail the existence of any other subject of experience. (Goff 2009b, 18)

Summary: Thanks to NSS, the panpsychist's favoured arrangement of phenomenally-qualified ultimates composing Goff's brain is fully compatible with the absence of the relevant o-consciousness, Goff's phenomenal perspective. Hence panpsychic zombies are conceivable, and panpsychism loses its claim to account for o-consciousness.

It thus turns out that it is crucial to the panpsychic zombie argument to conceive of the panpsychic ultimates composing a phenomenal perspective as themselves subjects of experience. For NSS is a thesis about subjects of consciousness, about what is entailed (or not) by the arrangement of subjects. And, just as was made so vivid by Block's microscopic aliens thought experiment earlier, nothing seems to follow from the assembly of subjects, in whichever way, concerning some further state of consciousness putatively comprising those subjects. I have no quarrel with principle NSS, it seems intuitively true and is confirmed by

what we have said concerning the metaphysical status of subjects (minds, phenomenal perspectives) earlier on: namely that subjects are fundamentally fenced off from one another, each windowless with respect to the next. Given this, one could not expect anything to follow about a further phenomenal perspective over and above them given an arrangement of subjects.

All of this is true. But it is not to the point when it comes to the model of phenomenal combination offered here. On the present model, phenomenally-qualified ultimates are not subjects. But this changes the face of the argument entirely. Because the phenomenally-qualified ultimates Goff considers are subjects they cannot unite, pool together. So if Goff is to envisage any relationship between the many subjects being taken to compose the relevant part of his brain and his, Goff's, o-conscious phenomenal perspective, it will have to be that this body of subjects somehow *spawns* a further, distinct subject. But there is just no reason, as NSS rightly has it, to think that this will happen. This explains Goff's reasoning when he says that his phenomenal perspective is 'a *different* conscious experience with a different phenomenal character to each of the conscious experiences I am supposing to be had by each of my ultimates' (*op. cit.*). Crucially, the relationship presently envisaged between the phenomenal character of the phenomenally-qualified ultimates composing him and that of Goff's o-consciousness is quite different. On the present view, the phenomenal characters of the ultimates composing Goff's brain *jointly constitute* the phenomenal character of his o-conscious phenomenal field, they do not spawn it as a separate entity. This feature enables us to overcome an objection lurking in Goff's account concerning the unity of o-experience: 'The existence of a subject having a unified experience of feeling cold and tired and smelling roast beef does not seem to be a priori entailed by the existence of a subject that feels cold, a subject that feels tired, and a subject that smells roast beef' (*Ibid.*) In our model the phenomenal elements of cold, tiredness and the smell of roast beef come together closely enough to form a phenomenal unity: they are experienced together as overlapping features of the same phenomenal field. This is thanks to the pooling of the intrinsic natures of the phenomenally-qualified ultimates, possible due to their subjectless nature.

The question we must now ask, in order to properly evaluate the panpsychic zombie argument, is the following. If the ultimates composing the relevant portion of Goff's brain instantiated the relevant phenomenal qualities (coldness, tiredness and roast beef smell, etc.), and were pooled to form a unified phenomenal field comprising these elements (and many more), would it then be conceivable that there was no o-conscious phenomenal perspective

present? It seems much less clear that the answer to this question will come out in favour of the proponent of the panpsychic zombie argument. For when we outline the nature of a unified phenomenal field composed of pooled ultimates instantiating phenomenal coldness, tiredness and the smell of roast beef, what we seem to be doing is *precisely* describing an o-conscious phenomenal perspective of the sort that Goff enjoys. It seems that if the phenomenal ultimates can pool in the way we envisage, then their suitable arrangement cannot occur without an o-conscious phenomenal perspective forming. We have thus shown how panpsychism can provide for the overall state of consciousness of a subject such as one of us, and Goff's panpsychic zombie argument fails.

Interestingly, Goff seems open to the central idea of our account. Late in his paper he imagines the possibility that

the parts of my brain, before they came together to form my brain, had their own individual phenomenal lives. But when they come together to form my brain they lose their individual conscious identities, and somehow morph into o-experience had by the whole brain. I think we can some imaginative grip on this picture. (Goff 2009b, 25)

Having uncovered this tantalising possibility, apparently so close to the present proposal, Goff's rejection of it is puzzling. He says we may as well imagine that '*bog standard physical properties*' (*Ibid.*) when they come together 'somehow' develop o-experience. He likens the panpsychist proposal to a straightforward version of emergentism, and takes the view that between panpsychist emergentism and physicalist emergentism the physicalist version is preferable for reasons of ontological economy. Goff may well be right about the balance of theory-choice in this case. But he is wrong to assimilate the panpsychist proposal to emergentism. On our picture the o-conscious phenomenal perspective Goff enjoys *is* (the 'is' of constitution) the fused unity of a multitude of phenomenally-qualified ultimates instantiating the relevant phenomenal qualities. The resultant whole is no more a case of ontological emergence than is the existence of the *Maja Desnuda* once Goya has laid down and suitably combined all the relevant paint patches. In contrast, the physical composition of Goff's o-consciousness would be more like imagining—to pursue the analogy—that Goya's pencil sketch of the *Maja* sprang to colourful, painterly life of its own accord, as soon as all (and only) the pencil marks were set down. That certainly *would* be emergence worthy of the name. On one side we have the notion of the assembly into a whole of instances of existing

qualitative nature. On the other side we have the idea of the spontaneous generation of qualitative nature from components entirely lacking in it. It is the considerable sense-making capacity of the former picture in which the appeal of panpsychism still consists, despite the efforts of its critics.

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#### REFERENCES

BLOCK, N. (1980) 'Troubles with Functionalism' in N. Block ed. *Readings in the Philosophy of Psychology* Vol. 1 (Cambridge, MA: Harvard University Press).

—(2003) 'Mental Paint', in *Reflections and Replies: Essays on the Philosophy of Tyler Burge*, eds. Martin Hahn and Bjorn Ramberg. (Cambridge, MA: MIT Press).

BROAD, C. D. (1923) *Scientific Thought* (London: Routledge and Kegan Paul).

BUTCHAROV, P. (1980) 'Adverbial Theories of Consciousness' in *Midwest Studies in Philosophy 5, Studies in Epistemology* ed. P. French *et al.* (Minneapolis).

CHALMERS, D. J. (1996) *The Conscious Mind* (Oxford: Oxford University Press).

FOSTER, J. (2000) *The Nature of Perception* (Oxford: Oxford University Press).

GOFF, P. (2006) 'Experiences Don't Sum' in *Journal of Consciousness Studies* 13 (10-11):53-61.

—(2009a) 'Can the Panpsychist get around the Combination Problem?' in *Mind that Abides: Panpsychism in the New Millennium*, ed. D. Skrbina (Amsterdam: Benjamins).

—(2009b) 'Why Panpsychism Doesn't Help Us Explain Consciousness' in *dialectica* 63 (3): 289-311.

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HARTSHORNE, C. (1942) 'Organic and Inorganic Wholes' in *Philosophy and Phenomenological Research*, Vol. 3, No. 2, pp. 127-136.

—(1974) 'Perception and the "Concrete Abstractness" of Science' in *Philosophy and Phenomenological Research*, Vol. 34, No. 4 pp. 465-476.

—(1977) 'Physics and Psychics: The Place of Mind in Nature' in *Mind in Nature: the Interface of Science and Philosophy* ed. J. B. Cobb Jr. and D. R. Griffin (University Press of America).

HUME, D. (1739/1978) *A Treatise of Human Nature* ed. L. A. Selby-Bigge and P. H. Nidditch (Oxford: Oxford University Press).

JACKSON, F. (1976) 'The Existence of Mental Objects' in *American Philosophical Quarterly* 13: 23-40.

—(1982) 'Epiphenomenal Qualia' in *Philosophical Review* 32:127-36.

JAMES, W. (1890/1950). *The Principles of Psychology*, Vols. 1 & 2. (New York: Dover Publications).

—(1909) *A Pluralistic Universe* (Digireads.Com).

JOHNSTON, M. (1992) 'How to Speak of the Colors', in *Philosophical Studies* 68: 221–263.

KIRK, R. (1974) 'Zombies vs. Materialists' in *Supplement of the Proceedings of the Aristotelian Society* 48: 135-152.

LEIBNIZ, G. W. (1714/1991) *The Monadology*, translated by D. Garber and R. Ariew, (Indianapolis, Indiana: Hackett Publishing Company).

LOCKWOOD, M. (1989) *Mind, Brain and the Quantum*, (Oxford: Basil Blackwell).

NAGEL, T. (1974) 'What is it like to be a Bat?' in *Philosophical Review* 83:435-50.

—(1979) 'Brain Bisection and the Unity of Consciousness' in his *Mortal Questions* (New York: Oxford University Press).

PAPINEAU, D. (2002) *Thinking about Consciousness* (Oxford: Oxford University Press).



ROSENBERG, G. (2004) *A Place for Consciousness: Probing the Deep Structure of the Natural World* (New York: Oxford University Press).

ROSENTHAL, D. (1991) 'The Independence of Consciousness and Sensory Quality' in *Philosophical Issues* 1:15-36.

SEAGER, W. E. (1995) 'Consciousness, Information, and Panpsychism' in *Journal of Consciousness Studies* 2:272–288.

SHANI, I. (2010) 'Mind Stuffed with Red Herrings: Why William James' Critique of the Mind-Stuff Theory Does not Substantiate a Combination Problem for Panpsychism' in *Acta Analytica* (available online).

STOLJAR, D. (2006) *Ignorance and Imagination* (Oxford: Oxford University Press).

STRAWSON, G. (2003) 'What is the Relation between an Experience, the Subject of the Experience and the Content of the Experience?' in *Philosophical Issues* 13 (1): 279-315.

—(2006) 'Realistic monism: Why physicalism entails panpsychism' in *Journal of Consciousness Studies*, 13(10–11): 3–31.

—(2008) 'Real Intentionality V. 2: Why Intentionality Entails Consciousness' in his *Real Materialism and Other Essays* (Oxford: Oxford University Press).

UNGER, P. (2006) *All the Power in the World* (New York: Oxford University Press).

VAN STEENBURGH, E.W. (1987) 'Adverbial Sensing' in *Mind* 96 (383): 376-380.