

Forming a Positive Concept of the Phenomenal Bonding Relation for Constitutive Panpsychism

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ABSTRACT

Philip Goff has recently argued that due to the ‘subject-summing problem’, panpsychism cannot explain consciousness. The subject-summing problem is a problem which is analogous to the physicalist’s explanatory gap; it is a gap between the micro-experiential facts and the macro-experiential facts. Goff also suggests that there could be a solution by way of a ‘phenomenal bonding relation’, but believes that this solution is not up to scratch because we cannot form a positive not-merely-role-playing concept of this relation. In this paper, I argue that the phenomenal bonding solution *is* up to scratch. I argue that the panpsychist, by carefully inspecting their phenomenology and scrutinising their concepts, can form a positive concept of the phenomenal bonding relation. By doing this they can start to get around their explanatory gap.

1. Introduction

Panpsychism is the view that phenomenal consciousness is a fundamental and ubiquitous property instantiated by the micro-level constituents of the cosmos. Constitutive panpsychism is the view that these micro-level instances of consciousness constitute the macro-level consciousnesses of subjects like ourselves (in an analogous manner to how physical atoms constitute chairs or trees, etc.). This view has recently grown in popularity because it promises to offer an alternative to both physicalism and dualism. However, aside from its *prima facie* weirdness, the significant problem that constitutive panpsychism faces is the ‘subject-summing problem’: how do subjects and their experiences add up so as to make (constitute) other subjects and their experiences?

The ‘phenomenal bonding solution’ to the subject-summing problem proposes that the problem can be avoided once one allows for a *phenomenal bonding relation* between subjects. However, the main proponent of the phenomenal bonding view, Philip Goff (Goff 2009a, 2009b, 2016), believes that we can only form a merely ‘role-playing concept’ of the relation. In other words, at best the panpsychist’s concept of the relation is the role it plays in their theory, it is merely *the relation that gets us around the subject-summing problem*. Hence, Goff is sceptical about our ability to form a positive concept of the phenomenal bonding relation.

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Here I will argue that we should not be sceptical about forming a positive concept of the phenomenal bonding relation. I will also aim to improve Goff's phenomenal bonding solution by offering a positive conception of the phenomenal bonding relation.

To do this, I will first outline the subject-summing problem for panpsychism as formulated by Goff and the proposed phenomenal bonding solution (Goff 2009a, 2009b, 2016). From Goff's explanation of his scepticism I will extract three necessary and sufficient conditions that a prospective phenomenal bonding relation must meet. I will subsequently argue that these conditions can be met. If these conditions can be met, then the panpsychist can get around the subject-summing problem and close their 'explanatory gap' between the micro-level subjects and their experiences and the macro-level subjects and their experiences. The three conditions that the relation must meet are:

- i. It must be a phenomenal relation.
- ii. It must hold between subjects *qua* subjects of experiences.
- iii. It must necessitate further distinct subjects.

The first condition can be met with relative ease, and I motivate the existence of phenomenal relations with three arguments. I shall suggest that the relation which best fulfils the role of phenomenal bonding is the 'co-consciousness' relation (section 3).

The second condition is considerably more demanding because it involves phenomenal relations between subjects: whilst it is obvious that we often encounter spatial or physical relations between subjects, it is less obvious that we often encounter co-consciousness occurring between subjects. I will, however, argue that Goff's reason for being sceptical about (ii) – namely, that we need introspective access to other subjects and we do not have it – is false. Whilst having introspective access to another subject would be sufficient for us to formulate a concept that met (ii), it is not necessary: there are other concept-forming processes that would allow us to form a concept that met (ii). Consequently, I propose we form a concept of this relation by a process of 'analogical extension' (section 4).

The third condition can also be met now we have established the other conditions. To show this I highlight the inconceivability of 'panpsychist zombies' for which our phenomenal bonding relation holds true (section 5). In other words, I highlight the inconceivability of 'phenomenally bonded zombies': functionally identical humans, whose micro-physical parts are micro-subjects, and between which the phenomenal bonding relation holds.

By doing this I hope to have achieved my aim of showing that we do not need to be sceptical about forming a positive concept of the phenomenal bonding relation, and improving Goff's account by offering a positive concept of the phenomenal bonding relation.

2. *The subject-summing problem and the phenomenal bonding solution*

The subject-summing problem is the aspect of the combination problem generated by the subject-involving nature of experiences, i.e. that experiences are had by subjects. In this section I shall outline this problem, the phenomenal bonding response, and the three necessary and sufficient conditions any prospective phenomenal bonding relation must meet.

Philip Goff (Goff 2009b, 2016) formulates the subject-summing problem as a sort of ‘panpsychist zombie’ conceivability argument, analogous to zombie conceivability arguments against physicalism.¹ The subject-summing argument is as follows:

The Subject-Summing Argument:

1. If constitutive panpsychism is true, then there exists a number of micro-subjects, $S_1 \dots S_n$, with certain experiences, $E_1 \dots E_n$, and a distinct macro-subject, S_x , with its experiences, E_x , such that the existence of the micro-subjects, $S_1 \dots S_n$, and their experiences, $E_1 \dots E_n$, necessitates the existence of the distinct macro-subject, S_x , and its experiences, E_x .
2. **Conceivable Isolation of Subjects (CIS):** For any group of subjects, $S_1 \dots S_n$, with certain conscious experiences, $E_1 \dots E_n$, it is conceivable that just those subjects, $S_1 \dots S_n$, with those conscious experiences, $E_1 \dots E_n$, exist in the absence of any further subject, S_x , with its experiences, E_x .
3. **Phenomenal Transparency:** Direct phenomenal concepts are transparent.
4. **Transparent Conceivability-possibility Principle:** For any proposition, P , which contains only transparent concepts, if P is conceivably true, then P is possibly true.
5. **Metaphysical Isolation of Subjects (MIS):** For any group of subjects, $S_1 \dots S_n$, with certain conscious experiences, $E_1 \dots E_n$, it is possible that just those subjects with those conscious experiences exist in the absence of any further subject, S_x (from 2, 3 and 4).
6. **No Summing of Subjects (NSS):** It is never the case that the existence of a number of subjects, $S_1 \dots S_n$, with certain experiences, $E_1 \dots E_n$, necessitates the existence of a distinct subject, S_x (from 5).
7. Hence, constitutive panpsychism is false (from 1 and 6).

Premise (2) is supported by the conceivability of panpsychist zombies. Like a normal zombie, the panpsychist zombie is functionally identical to a normal person and lacks macro-phenomenal consciousness.² But unlike a normal zombie, all

¹ Chalmers (2016) subsequently formulates it in a similar manner.

² ‘Macro-phenomenal’ consciousness is the sort of conscious experience enjoyed by macro-sized subjects, or ‘macro-subjects’. ‘Micro-phenomenal’ consciousness is the sort of conscious experience enjoyed by micro-sized subjects, or ‘micro-subjects’.

the micro-physical ultimates that constitute it are micro-subjects having micro-experiences.

Premise (3) claims that our phenomenal concepts are transparent, which for the sake of argument I will assume is true.³ Goff defines transparent concepts in the following way: a concept is transparent *iff* it is *a priori* to the concept user what it is for an object or property to satisfy that concept (Goff 2016, 289). Concepts like *million sided* are transparent, for it is *a priori* what it takes for an object to satisfy this concept by instantiating the property.⁴ Goff believes that it is plausible that our direct phenomenal concepts are transparent, i.e. the concepts that we employ when we think about our experiences whilst undergoing them. He writes:

Direct phenomenal concepts are plausibly transparent ... When I attend to a pain, it is directly revealed to me what it is for something to feel that way. When I attend to my experience of orange, it is directly revealed to me what it is for something to instantiate an experience of that kind (Goff 2016, 291).

Premise (4) is Goff's 'transparent conceivability-possibility principle' and allows for the move from conceivability to possibility when using transparent concepts. This means that when we are conceiving using only transparent concepts, i.e. ones which it is *a priori* what it takes for that concept to be satisfied, we can move from the conceived scenario to the possibility of that scenario. To use Goff's example: we can move from the conceivable existence of a *million-sided object* to the possible existence of such an object.⁵ Hence, because our phenomenal concepts are transparent, when we are conceiving using them, we can move from the conceived scenario to the possibility of that scenario. Again, for the sake of argument, I will be using Goff's transparent conceivability-possibility principle and will assume its truth.

Premises (2), (3) and (4) allow us to infer the 'Metaphysical Isolation of Subjects': conceiving of a set of subjects in the absence of a further subject, and doing so using transparent concepts allows one to move to the possibility of such a set of subjects in the absence of a further subject. If the Metaphysical Isolation of Subjects (MIS) is true, then so too is premise (6), the No Summing of Subjects

³ This is not an explicit endorsement of the principle, but it is worth making our position meet these standards. As Goff and Chalmers both note: the panpsychist is motivated to accept such principles because they are used in modal arguments against physicalism, and, as such, it may be risky to try to deny them (Chalmers 2016; Goff 2016).

⁴ In distinction to transparent concepts are 'opaque concepts'. These are concepts which do not reveal *a priori* what it takes for something to satisfy the concept. There are also translucent concepts which fall somewhere in between this.

⁵ When using opaque concepts, such as *water* for example, we cannot move from conceivability to possibility. This is how Goff accounts for the gap between conceivability and possibility resulting from Kripkean *a posteriori* necessities (like $\text{water} = \text{H}_2\text{O}$).

(NSS) thesis. If (NSS) is true, then constitutive panpsychism is false because it fails to supply the requisite necessitation that constitution demands. Hence, it seems that constitutive panpsychism is false.

Let us move on to the phenomenal bonding response to this argument.

2.1. *The phenomenal bonding response*

Fortunately for the constitutive panpsychist, the subject-summing argument can be responded to. Premise (1) is limited to merely *the existence* of a set of micro-subjects and their micro-phenomenal experiences, and does not include any relations between the subjects and their experiences. Hence, the argument does not rule out the possibility that there can be some *state of affairs* that the subjects enter into: a set of relations between them such that they necessitate a further subject of experience.⁶

The phenomenal bonding panpsychist argues that we should include these possible relations and reformulate constitutive panpsychism in something like the following way:

(1*) If constitutive panpsychism is true, then there exists of a number of micro-subjects, $S_1 \dots S_n$, with certain experiences, $E_1 \dots E_n$, standing in certain relations $R_1 \dots R_n$ to one another, and a distinct macro-subject, S_x , with its experiences, E_x , such that the existence of the micro-subjects standing in those relations necessitates the existence of the distinct macro-subject with its experiences.

Premise (1*) and the No Summing of Subjects thesis (NSS) are not inconsistent,⁷ hence we cannot derive the falsity of constitutive panpsychism from it. Goff argues that the constitutive panpsychist now has room to posit some *state of affairs* to avoid the subject-summing argument, some relation or set of relations $R_1 \dots R_n$.

To make progress, however, the constitutive panpsychist needs to form a *positive* concept of this relation. As it stands, they have a merely role-playing concept. By ‘merely role-playing concept’ I mean that the concept merely designates the role the relation plays in the panpsychist’s theory: it tells us simply that it must necessitate the existence a distinct subject if it holds between a group of subjects. Goff is sceptical of the idea of making progress on forming a positive (i.e. not merely role-playing) concept of phenomenal bonding. He

⁶ When we talk about molecules constituting water, or frames and wheels constituting bikes, we talk of the parts and the relations they stand in. The panpsychist is therefore justified in doing the same.

⁷ One would need a ‘No Summing of Related Subjects’ to falsify (1*), as I will discuss below (section 5).

believes that our epistemic relationship to the phenomenal bonding relation is of a ‘mysterian’ kind.⁸

The reason for his scepticism is twofold. Firstly, were we to form a concept of a phenomenal bonding relation, we would have to be able to form a concept of a phenomenological relation. Goff believes we cannot do this because no such relations exist. Secondly, we would have to be able to form a concept of a relation that held between subjects of experience *qua* subjects of experience. Goff believes we cannot do this because we do not have introspective access to other subjects. I believe we can take these reasons for being sceptical and conjoin them with our role-playing definition of phenomenal bonding to obtain three necessary and jointly sufficient conditions that any prospective relation must meet for it to be a satisfactory phenomenal bonding relation:

Phenomenal bonding = Relation R, such that:

- (i) R is phenomenal;
- (ii) R holds between subjects *qua* subjects of experience;
- (iii) when R holds between a set of subjects, $S_1 \dots S_n$, with their experiences, $E_1 \dots E_n$, it necessitates a distinct subject, S_x , with its experiences, E_x .

I will address each necessary condition in the order stated above, and in doing so argue that we can form a positive (and not merely-role-playing) concept of the phenomenal bonding relation. I hope that by showing this I will have made some movement towards closing the ostensible explanatory gap for the constitutive panpsychist.

In the following section I will argue that there are phenomenal relations, co-consciousness being one of them, and that co-consciousness is what we should take our prospective phenomenal bonding relation to be. I will show that each condition may be met, and following this consider some objections to the proposal that co-consciousness is phenomenal bonding.

3. *Meeting the first bonding criterion: phenomenal relations and co-consciousness*

Why then, according to Goff, can we not form a concept of a relation that meets the first necessary condition? For Goff, we cannot form a concept of a relation that

⁸ ‘Mysterianism’ is the name given to Colin McGinn’s stance on the hard problem (McGinn 1989, 2006). For the mysterian, we would need a shift of perspective, our constitution would have to change. Nagel takes the converse view, an ‘optimistic’ one. For the Nagelian, we don’t need a perspective shift, but we need to get our new concepts by ‘reflection on what appears impossible’ (Nagel 1986, 52). My intention is to forward an optimistic Nagelian position regarding the phenomenal bonding relation, as opposed to Goff’s mysterian position.

meets requirement (i) because of our epistemic situation with regard to the world and the nature of consciousness. Goff states the following:

Our most basic empirical science, physics, yields understanding only of the world's mathematico-causal structure, and the phenomenal bonding relation is not a mathematico-causal relation... Apart from its mathematico-causal structure, arguably the only feature of the world we transparently understand is consciousness. And consciousness is a monadic property. Our unfortunate epistemic situation does not afford us a transparent understanding of the (non-mathematico-causal) relations which conscious things bear to each other (Goff 2016, 292–3).⁹

Arguably Goff is right in claiming that current physics reveals the nature of matter to be merely a set of mathematico-causal relations.¹⁰ However, Goff's claim that we cannot form a concept of a phenomenological relation because states of consciousness are monadic, and hence we are not acquainted with any relations between conscious things does not seem to be right. In the next section I will give three arguments to support this criticism and the claim that there are phenomenal relations which we are acquainted with, along with the proposal that phenomenal bonding is co-consciousness.

3.1. *Three arguments for phenomenal relations*

I believe the following three facts can support the claim that there are phenomenal relations with which we are acquainted and of which we can form concepts: (i) phenomenal relations are introspectible; (ii) absent phenomenal relations generate false phenomenological descriptions; (iii) phenomenal relations fail to generate phenomenal contrast arguments. If there are phenomenal relations with which we are acquainted in our consciousness, then we have perfectly good relations as candidates to meet the first necessary condition on phenomenal bonding. I shall first state what I take a phenomenal relation to be, give some examples including co-consciousness (which is our candidate relation for phenomenal bonding), and then give the arguments in favour of phenomenal relations.

Firstly, what is a phenomenal relation? I take it that Goff's phrasing is suggestive of the nature of phenomenal relations: 'relations which conscious things bear to each other'. To make this precise, we can say that phenomenal relations are relations that hold between subjects and/or experiences. In other words, 'conscious things' like

⁹ See Goff (2009a, 132–33) for the same remarks.

¹⁰ Matter, according to current physics, is defined purely in terms of its extrinsic and dispositional properties, and this austere characterisation does not capture its intrinsic and categorical properties. This is, for some in the debate, a driving motivation to adopt a certain form of 'Russellian' panpsychism. For discussions on this topic, see the Alter and Nagasawa volume on 'Russellian Monism' (Alter and Nagasawa 2015).

subjects or experiences are the relata of phenomenal relations. Also, we can say that phenomenal relations are *themselves* phenomenal, i.e. there is something which it is like for that relation to be instantiated (unlike the way in which there is not ‘something it is like’ for spatial or causal relations to be instantiated).

What are examples of such phenomenal relations? Putative examples of such concrete phenomenal relations may be things like attentional relations between experiences, i.e. some experiences being peripheral to other experiences and some experiences being central. Other examples of phenomenal relations would be the relation of *inner awareness*, *for-me-ness*, or *self-intimation* that experiences (or subjects) bear to themselves. In fact, Marie Guillot has recently defined inner awareness and for-me-ness in terms of some relation R holding between either a subject and its experiences, or between the subject and itself (Guillot 2017). Likewise, Galen Strawson has defined self-intimation as a relation R that holds between an experience and itself (Strawson 2015).¹¹

In our case the phenomenal relation in question is the *phenomenal unity relation*: the relation in virtue of which conscious experiences have a conjoint phenomenology or a conjoint what-it-is-like-ness. There are competing accounts of this relation, but I here intend to follow Chalmers’ and Dainton’s speculations (Dainton 2011; Chalmers 2016) that the *co-consciousness* relation is phenomenal bonding. The co-consciousness relation is that relation in virtue of which a set of experiences has a conjoint phenomenology.

The co-consciousness relation meets our first necessary condition on a phenomenal bonding relation (i), but it also has the benefit of being a relation which is *constructive* – whereby I mean: (a) that it is a concrete relation and not a formal one (so it holds between concrete particulars and cannot hold between abstract entities), and (b) that when it holds between its relata there is a significant *structural* difference as compared to the scenarios in which it does not hold between the relata. To illustrate this, consider the following example: if two hydrogen atoms and one oxygen atom stand in the relation of ‘being members of the periodic table’, then (all things considered) there is no further interesting thing to say about them. This relation, ‘being members of the periodic table’, is merely formal and brings about no structural difference to its relata. But, if the relation of being *covalently bonded* holds between the particulars, then (all things considered) there are further interesting things to say about the scenario as compared to when it does *not*. The members of the set share electrons, for instance, and the set itself has the property of liquidity: a new structural feature of the set arises in virtue of the relation that holds between

¹¹ It is a contested issue whether subjects have an inner awareness of their experiences, or whether all experiences are reflexively aware of themselves. See Strawson (2015) and Guillot (2017) for discussions.

the members of the set (and this relation is not merely formal). Analogously, there is a significant difference between the scenarios in which a set of experiences exists and a merely formal relation holds between the members of the set, or a constructive relation holds between the members of the set. For example, consider two experiences between which the relation ‘being of the same sensory modality’ holds. All things considered, there is nothing further interesting to say about these two experiences. This relation is formal and brings about no structural difference. On the other hand, if we consider a set of experiences the members of which are related by the co-consciousness relation, then, all things considered, there are further interesting things to say about them: there is a conjoint phenomenology between the experiences, a new structural feature of the set that arises in virtue of the members of the set being related by co-consciousness.

With a better understanding of the co-consciousness relation, and with examples of other phenomenal relations in hand, let us turn to the arguments establishing the existence of such relations.

3.1.1. *Positively introspectible*

Firstly, we can support the claim that there are phenomenological relations by arguing that they are positively introspectible. Moreover, if they are positively introspectible, then we obviously have a good concept of what a phenomenological relation is. In addition, we may even have *as good* a concept of the phenomenal relations as we have of the intrinsic phenomenal properties that populate our conscious states.

When one introspects one’s experience, it is true that one comes across many intrinsic properties: the greenness of a pen, the hum of a taxi engine, and the smell of newly painted walls. But it does not seem to be the case that when one introspects, one’s conscious life is as austere as this. One’s experience of the smell is *related to* the sound of the taxi and the sound of the taxi is *related* in some manner to the colour of the pen. The smell and the hum may be at the peripheries of one’s consciousness, and the greenness of the pen at the centre, hence there are attentional relations between the experiences that one introspects. And, each of these experiences may be self-intimating, or the subject may have an inner awareness of each experience that they can introspect. Moreover, and importantly for the constitutive panpsychist, the greenness of the pen is *co-conscious* with the hum of the taxi, and when one introspects this is what one finds.¹²

¹² Each of these experiences might also stand in the relation of ‘self-intimation’ to themselves. Again see Strawson (2015) and Guillot (2017).

3.1.2. *Absent relations generate false phenomenological descriptions*

Secondly, we can support the claim that there are phenomenal relations by appealing to the false phenomenological descriptions that the denial of this claim, viz. that there are phenomenal relations, would entail. These false descriptions suggest that there is a significant part of our phenomenal lives that we are normally acquainted with, but which has been missed out.

Any description of one's synchronic total experiential field that listed only the monadic qualities of the experiences, however long and rich the description, would be quite unlike anything we experience day to day. For if consciousness was described merely in terms of monadic phenomenal properties, like the greenness of the pen, the hum of the taxi, and the smell of paint, then there would seem to be something significant missing from our description: namely, phenomenal relations. Describing merely the greenness, or the smell, would leave out the fact that one was at the centre of one's attention. Describing merely the smell or greenness may leave out that the subject has an inner awareness of those experiences, or that each experience is reflexively aware of itself. And, importantly, it would leave out the fact that the co-conscious relation holds between the two experiences.¹³

3.1.3. *Phenomenal contrast*

Thirdly, we can support the claim that there are phenomenological relations by appealing to the failure of phenomenal contrast arguments in this context (Kriegel 2007, 125–9). In phenomenal contrast arguments, we try to imagine sympathetically some state, S2, (which is to attempt to imagine it phenomenologically from the first-person perspective) identical to the phenomenal state, S1, we intend to 'investigate'. But, in the state, S2, that we sympathetically imagine, we purposely imagine it lacking a specific property, P: the property that is the focus of the phenomenal investigation. If one can (a) positively imagine this alternative state S2, and when one does (b) there is a phenomenological difference between the states S2 and S1, then that absent property P is phenomenological (Kriegel 2007).¹⁴ Hence, successful contrasts show that certain properties are phenomenal. Failed contrast arguments do not, however, show that certain properties are not phenomenal, this is because there are certain properties of experience that we cannot

¹³ See Bayne (2010, 11) for a similar claim.

¹⁴ The typical example is hearing a conversation in French with and without understanding the meanings of the words. If one is (a) able sympathetically to imagine what this state would be like, and (b) there is a significant difference in one's phenomenology, then it is inferred that the property of 'meaning' is phenomenally manifest, i.e. there is distinctly something which it is like to understand meanings. See Bayne and Montague's volume on cognitive phenomenology for an in-depth discussion on this topic (Bayne and Montague 2011).

imagine it not having: properties that fail to generate phenomenal contrast arguments because they fail at step (a) (i.e. we are unable to positively imagine experiences which *lack* them). If the contrast fails at (b), then the property in experience is not phenomenal, but, as Kriegel (2007) argues, the properties which fail at step (a) are the properties that are *necessary* for, or *constitutive* of phenomenal consciousness.¹⁵

My claim is that the same goes for some phenomenal relations. That is, we cannot sympathetically imagine what it would be like to experience only monadic properties in a conscious field without those properties being related to one another by relation R. Thus, phenomenological relation R is necessary for, and constitutive of, phenomenal consciousness. In particular, the claim in this paper is that co-consciousness is a relation that fails phenomenal contrast arguments at step (a): one cannot sympathetically imagine a conscious state lacking the co-consciousness relation between the experiences constituting that state.¹⁶

These three arguments give us good reason to endorse the existence of phenomenal relations, one of which is co-consciousness: the candidate phenomenal bonding relation.¹⁷ Now we have good reason to think that there are phenomenal relations, and that co-consciousness is the relation which we intend to use to meet condition (i), we need to show that we can form a concept of a relation that meets condition (ii), i.e. that it holds between subjects *qua* subject of experience. In the next section I shall take up this task, following which I shall show co-consciousness also meets condition (iii).

4. Meeting the second bonding criterion: intersubjective relations

Forming a conception of a phenomenological relation might not be as hard as it initially seemed: many relations occur within my total conscious field and it seems the co-consciousness relation is the ideal relation to meet the requirement (i). But why does Goff think we cannot form a concept of a relation that satisfies requirement (ii): R holds between subjects *qua* subject of experience? Again, it seems to be because of our epistemic situation regarding subjects of experience:

¹⁵ Compare our ability to perform a phenomenal contrast of a state in the absence of colour, with our putative inability to perform a phenomenal contrast of a state with absence of its *subjectivity* or *self-intimation*. As footnote 11 notes, the primitive status of ‘for-me-ness’ or ‘self-intimation’ is still contested.

¹⁶ Attentional relations are not like this, one can perform contrast cases for states lacking this relation. Hence, this argument only holds for the constitutive aspects of phenomenal consciousness. It is contested whether the contrast case works for for-me-ness and self-intimation, however.

¹⁷ Note that one is phenomenally aware of the relation, i.e. one is aware of the relation and it *feels a certain way*.

I have epistemic access to only one subject of experience *qua* subject of experience, i.e. the subject of my own experience accessed via introspection. It follows from the fact that we can introspect only one subject of experience, that we cannot introspect how subjects of experience *qua* subjects of experience are related, for to introspect how subjects of experience *qua* subjects of experience are related we would have to be able to introspect more than one subject of experience. Given that we can experience subjects of experience *qua* subjects of experience only via introspection, and we have introspective access only to one subject of experience, it follows that we cannot experience subjects of experience *qua* subjects of experience as related (Goff 2009a, 132).¹⁸

Goff's point is quite clear, if we were to form a concept of the phenomenal bonding relation, it would require us to have introspective access to more than one subject. Or at least, it would require us to introspect the experiences of another subject of experience. If we had such access to another subject and its experiences, alongside such access to our own, then we would be able to introspect a relation that held between them.¹⁹ But, we do not have such introspective access to other subjects and their experiences, so we cannot form a concept of the relation.

Rather than adopting mysterianism at this point, the optimistic phenomenal bonding panpsychist may respond by arguing that we do not need introspective access to other subjects *qua* subjects of experience to form a concept of a relation that holds between them. In the following section I will show Goff's demand for introspective access is misplaced, and that we may be able to form a concept of the relation by 'analogical extension'.²⁰

4.1. Introspection is not necessary

The panpsychist should accept condition (ii) as a necessary condition on something's being the phenomenal bonding relation. However, Goff's claim that we need to have introspective access to other subjects seems to be a *further* requirement that is not a necessary condition on the nature of the relation itself. Instead, having introspective access to another subject seems to be a restrictive condition on *how* we come to know about and form a concept of the relation, and this way of coming to form a concept of the relation may be one of many possible ways.

In other words, having introspective access to another subject may be a process *sufficient* for forming a concept that meets requirement (ii). However, it does not seem to be *necessary* for forming a concept of a relation that meets condition (ii).

¹⁸ See Goff (2016, 293) for the same claim; the choice of quotation is purely for reasons of exposition.

¹⁹ That is, if it so happened that a relation did hold between them.

²⁰ I shall explain what 'analogical extension' is below.

Thus, there may be other concept-forming processes that are sufficient, such that they would allow us to form a concept of a relation that meets condition (ii), and which did not require us to be able to introspect another subject.²¹

The question is: how else could we form a concept that met (ii)? I propose the following answer: we could form a concept of a relation that met condition (ii) by simply *analogically extending* our concept of the relation that met condition (i) to the context in which it holds between distinct subjects *qua* subjects of experience. By ‘analogical extension’, I mean something similar to what Colin McGinn writes:

[s]uppose we try out a relatively clear theory of how theoretical concepts are formed: we get them by a sort of analogical extension of what we observe. Thus, for example, we arrive at the concept of a molecule by taking our perceptual representations of macroscopic objects and conceiving of smaller scale objects of the same general kind (McGinn 1989, 358).

Here, McGinn’s example of analogical extension is of our concept *physical object* and moving down in scale: we take our concept *physical* at the macro-level and extend it to the context of the micro-level. Another example of analogical extension may be when we form a concept of the ‘earlier than’ relation for vast stretches of time: we experience two closely temporally related events with a distinct order (e.g. the flicking of a switch and the boiling of a kettle), form a concept of ‘earlier than’, and we apply that concept to a new context in which the temporal distance between the two events is much greater than we can experience (e.g. the French Revolution occurring before the Battle of Waterloo).²²

An example regarding our experiences may be the following by Brian Loar. In essence, Loar is applying the same method of analogical extension to the ‘phenomenal similarity’ relation:

It appears that one’s phenomenological conception of how others’ phenomenal states resemble one’s own has to be drawn from one’s idea of how one’s own phenomenal states resemble each other. A person’s quality space of interpersonal similarity must derive from her quality space of intrapersonal similarity. How else is one to get a conceptual grip on interpersonal phenomenal similarity? This seems inevitable on any account – physicalist or antiphysicalist – on which phenomenal concepts are formed from one’s own case (Loar 1997, 606).

²¹ Alternatively, the panpsychist can say that we do have introspective access to other subjects. If constitutive panpsychism is true, then myself and my experiences are constituted by many subjects and their experiences. Hence, if constitutive panpsychism is true, it is true that I have introspective access to other subjects: namely, those subjects that constitute me. Hence, the constitutive panpsychist can respond to Goff by claiming that (a) Goff is incorrect that introspective access to distinct subjects is necessary, (b) introspective access to other subjects is sufficient, and (c) that we do indeed have introspective access to distinct subjects.

²² An interesting theological example would be how we form our concept of God on *perfect being theology*. See Morris (1991, chap. 2) for an example of this sort of analogical extension.

Here, Loar is taking the phenomenal similarity relation that holds between a subject's experiences and saying that we can apply this to the experiences of different subjects and between different subjects; we are taking an intrapersonal relation and applying it interpersonally. Likewise, the optimistic panpsychist should aim to analogically extend their concept of co-consciousness (which I have shown meets condition (i)) to the scenario in which it holds between subjects and thus meets condition (ii). That is, the phenomenal bonding panpsychist should aim to show that the co-consciousness relation that holds within a subject's conscious field can hold between the conscious fields of distinct subjects.²³ If this is possible, if no *a priori* contradiction arises as a result of the analogical extension, then the optimistic phenomenal bonding panpsychist can meet both of the first two conditions of a candidate phenomenal bonding relation. How can the panpsychist show this?²⁴

One way to show that this is possible would be to show that it is actual. Much has been written about the unity of consciousness regarding split-brain patients, and on certain readings we can plausibly argue that there is a form of co-consciousness that holds between two distinct subjects. For instance, if something *similar* to the 'partial unity account' notably proposed by Lockwood (1989) (and recently defended by Schechter 2014) is true, then we could understand the relations between each hemisphere as being an instance of the co-consciousness relation holding between the conscious fields of different subjects. The crux of partial unity models is that they see co-consciousness as a non-transitive relation, i.e. if experiences e_1 and e_2 are co-conscious, and e_2 and e_3 are co-conscious, it does not follow that e_1 and e_3 are co-conscious. To highlight how this helps, consider Lockwood's example of a neuron by neuron corpus callosotomy (Lockwood 1989, 87), where the two hemispheres of the brain are separated by cutting the corpus callosum one connection at a time. Consider the point at which *all* connections between the two hemispheres have been severed except one. It seems plausible to suggest that at this point we have co-consciousness relations holding between distinct, non-identical subjects of experience: if each hemisphere is considered a subject (as opposed to the organism as a whole), then co-consciousness relations between subjects would follow. Even if split-brains cases are best understood in another manner, one may still argue that there is no incoherence in this suggestion, and one may offer some other plausible account to highlight this

²³ Note that the relation that Loar uses is a formal relation and not a concrete one, but it may be possible that the analogical extension can still be done. This is precisely my claim below.

²⁴ It is worth noting that the panpsychist is already committed to doing something like this when they form a concept of their fundamental particles. The panpsychist takes the concept *phenomenal consciousness* from applying to human beings like ourselves and extends it to the context in which it applies to fundamental particles like quarks, leptons, and bosons. The panpsychist, therefore, should already be open to the utility of the analogical extension method.

possibility. If this is possible, then we can see that we could have co-consciousness relations between distinct, non-identical subjects' experiences. For the sake of brevity, I leave this an open but defensible possibility, one that needs a further argument beyond the scope of this paper.²⁵

I have shown that Goff's scepticism regarding condition (ii) is misplaced. He focuses on a merely sufficient process of concept formation, and neither does he show that such a process is necessary. I have also suggested that we may be able to analogically extend our concept of co-consciousness. I shall now move on to consider the third criterion. If we can show that co-consciousness meets condition (iii), then the phenomenal bonding panpsychist will have met all three conditions and will have a positive concept of the phenomenal bonding relation. In the next section I will show precisely that. Following this I will consider some objections to this proposal.

5. Meeting the third bonding criterion: necessitation

I have tried to show that there exist phenomenal relations and that co-consciousness is one such relation, i.e. condition (i) of phenomenal bonding can be satisfied. We are also assuming that it is defensible that the co-consciousness relation can be analogically extended from its intrapersonal context to an interpersonal context without any incoherence arising, i.e. that condition (ii) can be satisfied. The only question that remains is whether co-consciousness can satisfy the third condition:

- (iii) when R holds between a set of subjects, $S_1 \dots S_n$, with their experiences, $E_1 \dots E_n$, it necessitates a distinct subject, S_x , with its experiences, E_x .

To determine whether co-consciousness necessitates further subjects we can try to run the subject-summing argument again, but this time include co-consciousness in our formulation. The aim of the subject-summing argument is to show that there is precisely a lack of necessitation between the facts about micro-subjects and the

²⁵ I will note two further things, however. Firstly, Luke Roelofs has recently argued that the phenomenal unity relation can hold between distinct subjects of experience (Roelofs 2016). He has defended this possibility from three objections, and he has shown that all three can be overcome by adopting some very reasonable principles. Moreover, Roelofs argues that the burden of proof lies with the defender of the claim that, necessarily, phenomenal unity (in our case co-consciousness) cannot hold between subjects, rather than those who make the possibility claim that it can (Roelofs 2016, 3204). This is precisely why he *defends* the thesis. Secondly, it is also worth noting that in principle Goff has no objection to the idea of co-consciousness holding between distinct subjects. As far as one can tell, his objection is merely to the idea that we could form a concept of this relation by any means other than introspection of another subject's experiences. Nothing he has said indicates that if phenomenal relations existed, it would not be possible that co-consciousness could be extended to the interpersonal context.

facts about macro-subjects. It achieves this aim because of the putative truth of the conceivable isolation of subjects. Hence, if the argument fails at this stage (with co-consciousness in the picture), then we will have shown that there is the relevant necessitation between the facts about micro-subjects and the facts about macro-subjects. If we can show that co-consciousness provides the required necessitation, then co-consciousness will have met all three conditions on a phenomenal bonding relation. In the next subsection, I shall show that such an argument does fail, and that co-consciousness meets condition (iii).

5.1. *The inconceivability of isolated co-conscious subjects*

The important premise for our purposes is the Conceivable Isolation of Subjects (CIS). However, because we have now reformulated constitutive panpsychism to include possible relations between the subjects (as I suggested in section 2.1), to show that there is a lack of necessitation we would need a thesis which included the relations in question. What would be needed would be the Conceivable Isolation of Related Subjects (CIRS):

Conceivable Isolation of Related Subjects (CIRS): For any group of subjects, $S_1 \dots S_n$, instantiating certain conscious states, standing in certain relations, $R_1 \dots R_n$, to one another, it is conceivable that just those subjects, $S_1 \dots S_n$, with those conscious states exist in the absence of any further subject, S_x .

Using the Conceivable Isolation of Related Subjects (CIRS) we could run a Related-Subject-Summing Argument against panpsychism inserting co-consciousness as the variable relation R in (CIRS). Doing so would get us the ‘Conceivable Isolation of Co-Conscious Subjects’ (CICCS):

Conceivable Isolation of Co-Conscious Subjects (CICCS): For any group of subjects, $S_1 \dots S_n$, instantiating certain conscious states, standing in certain relations, $R_1 \dots R_n$, to one another, where one of the relations R_1 is the co-consciousness relation, it is conceivable that just those subjects, $S_1 \dots S_n$, standing in the co-consciousness relation, R_1 , with those conscious states exist in the absence of any further subject, S_x .

With this thesis, the transparency of our phenomenal concepts, and Goff’s transparency-possibility principle, we should be able to formulate another subject-summing argument against panpsychism: a ‘Co-Conscious Subject-Summing Argument’.²⁶ The conclusion of this argument would be that phenomenal bonding panpsychism, which claims that phenomenal bonding is co-consciousness, would be false.

²⁶ For the sake of brevity, I leave the task of formalising this argument to the reader.

What should we make of such an argument? I will show that it is unsound: the Conceivable Isolation of Co-Conscious Subjects (CICCS) is false. If the Conceivable Isolation of Co-Conscious Subjects (CICCS) is false, then co-consciousness is the necessitating relation that the panpsychist needs. Hence, co-consciousness meets condition (iii). To show the falsity of (CICCS), I shall return to the panpsychist zombie and show it is inconceivable.

The conceivability of a panpsychist zombie can give us the support we needed for the standard Conceivable Isolation of Subjects (CIS), but cannot help us with the Conceivable Isolation of Co-Conscious Subjects (CICCS). Instead, to support this thesis we would need a ‘co-conscious panpsychist zombie’. Like a standard zombie, the co-conscious panpsychist zombie acts just like a normal human person and its brain, etc., is functionally identical. However, just like a standard panpsychist zombie, each of the microphysical ultimates are micro-subjects instantiating micro-phenomenal properties. In addition to this, however, unlike a normal panpsychist zombie, the co-consciousness relation holds between all the micro-subjects’ experiences.²⁷ Moreover, just as a normal zombie and a panpsychist zombie lack a macro-consciousness, so too must the co-conscious panpsychist zombie. In other words, there is something which it is like to be each of the microphysical parts, the co-consciousness relation holds between all these parts, but there is nothing which it is like to be the whole. This is what a co-conscious panpsychist zombie amounts to.

The problem is that we cannot conceive of a co-conscious panpsychist zombie or a set of subjects each member of which is related by co-consciousness, without a subject corresponding to the complete set or the zombie. To illustrate this, consider a simple set of micro-subjects $S_1 \dots S_n$ with their certain micro-experiences, and consider that the co-consciousness relation holds between the experiences of each of the members of the set. Once each member of the set of subjects and their experiences becomes bonded by co-consciousness, there exists an experience that corresponds to the set and the co-consciousness relations between them: there is the set and its conjoint phenomenology. If there is a conjoint phenomenology corresponding to the set, then there is a what-it’s-likeness corresponding to the set, and, hence, there is a macro-subject which corresponds to the set.

It seems, then, that co-consciousness can provide the phenomenal bonding panpsychist with the requisite necessitation. Moreover, we have been able to show that co-consciousness meets the conditions (i)–(ii) of a phenomenal bonding relation. The phenomenal bonding panpsychist is now in a position to claim that they are no longer operating with a merely role-playing concept, and that their concept

²⁷ Or at least, all those parts of a human organism that are relevant for the production of macro-consciousness, e.g. the brain and maybe nervous system.

phenomenal bonding has the positive content that we were searching for. I shall now move on to discuss some objections to this proposal.

6. *Objections*

Now that we have the proposal on the table, namely that co-consciousness is a workable phenomenal bonding relation, it is worth considering some objections to it. In the following subsections, I will consider three such objections: (i) that we need transparent access to the relation R; (ii) that physical-to-phenomenal bonding is just as good; (iii) that co-consciousness is the explanandum not the explanans.

6.1. *We need transparent access*

Goff (and other mysterians about the phenomenal bonding relation) may respond by saying that our conditions are not strict enough: (i)–(iii) are not sufficient, and, as such, will not help us form an adequate concept of phenomenal bonding. Instead, the correct conditions on a phenomenal bonding relation would be ones that required us to have transparent access to the phenomenal relations. Hence, they may claim, we should add the following condition that, importantly, we have failed to satisfy:

(iv) We must have a transparent concept of the relation R.

The problem with this objection is that insofar as we have such transparent access to our experiences, we also seem to have such access to the co-consciousness relation that holds between them. Consider Goff's claim (section 2 above) that we have transparent access to our experiences of pain or the colour orange: if the nature of the experiences of pain or orange alone are revealed to me in introspection, then so too is the co-consciousness relation that holds between them. As such, not only do I form an ostensibly transparent concept of the intrinsic phenomenal properties in my conscious field, but also of the co-conscious relation that holds between them.

The response may be that (iv) still is not satisfied. Whilst it may be the case that we have a transparent concept of a phenomenal relation that satisfies (i), to have a transparent concept of a relation that meets condition (ii), we *must* come to know it by having introspective access to another subject. We may be able to have a concept of a phenomenal relation between subjects of experience by analogical extension, but without introspective access it would not be a transparent concept. Therefore, it would not be adequate for being our concept of phenomenal bonding.

Again, I believe the optimistic phenomenal bonding panpsychist can reply. They can say that if I am acquainted with the relation in my experience and I know *a priori* that it can hold between the experiences of distinct subjects of experience, then I have met the minimal requirements on what counts as a transparent concept of the relation as outlined by Goff.

6.2. *Physical-to-phenomenal bonding relation*

The following quotation from Goff reveals what I consider to be two objections:

[b]ecause we lack any experience of such a relation, we are unable to understand the state of affairs of *a group of subjects being related in the phenomenal bonding way* independently of what that state of affairs (if it exists) necessitates. Contrast with the case of spatial relations. We understand what it is for seven lego bricks to be on top of each other even if we are not thinking of them in terms of the tower they form... But in the same way we might define a slightly different relation, call it ‘physical-to-phenomenal bonding’ as ‘that relation such that when non-conscious physical particles stand in it to each other the existence of a subject of experience is necessitated.’ We understand this relation as much and as little as we understand the phenomenal bonding relation (Goff 2009a, 133).²⁸

The first objection is that because we only have a role-playing concept of the phenomenal bonding relation, we are only able to understand what it means for a group of subjects to be phenomenally bonded in terms of the putative subject which is necessitated. The second objection is that because of this, phenomenal bonding is no more dialectically advantageous or legitimate than other physicalist alternatives: ‘physical-to-phenomenal bonding’ would be just as good. Both objections stem from our lack of acquaintance with the phenomenal bonding relation.

I shall deal with the second objection first. If we had a merely role-playing concept of the phenomenal bonding relation, then the objection would stand. However, as I have argued, co-consciousness is our phenomenal bonding relation and we do not lack an experience of such a relation. As such, we are in a much better position when it comes to understanding this relation in comparison to the physical-to-phenomenal bonding relation. The reason the objection seemed to work was because we had no knowledge or concept of the phenomenal bonding relation other than its role in our theory: both phenomenal bonding and physical-to-phenomenal bonding were defined in merely the role-playing way. However, I have shown precisely that we can have a positive concept of the phenomenal bonding relation.

²⁸ Goff makes the same argument elsewhere: in section ‘objection 2’ of Goff (2009b, 306).

I shall now deal with the first objection. Again, we do have a positive concept of the phenomenal bonding relation: it is the co-consciousness relation and we are acquainted with it in our conscious lives. Hence Goff's claim that, in virtue of lacking a positive concept of the phenomenal bonding relation we can only understand a set of phenomenally bonded micro-subjects *as* the macro-subject which the phenomenally bonded set of micro-subjects necessitates, is false.²⁹

6.3. *Co-consciousness is helping oneself to the explanandum*

Sam Coleman (2016) has recently criticised the co-consciousness is phenomenal bonding proposal. He writes:³⁰

But this is to describe the (desired) outcome of a certain process, without telling us at all *how* it is achieved. Co-consciousness requires a subject: it's consciousness *for a subject* of some items. That makes *being co-conscious* relevantly like *being co-punched*, in that when two things are co-punched, we must ask: *by whom?* When we drag two experiential packets out of respective microsubjects, whence does the new subject come for whom they are to be co-conscious? To say that experiential packets are related now by co-consciousness is certainly to *imply* that a new subject has come into being for whom they are unified, but it is not to tell us how this happens, nor whether it is possible. In the absence of further positive content, what the notion of phenomenal bonding really amounts to is a *schema*: it specifies what an explanation of subject combination must achieve. It is a mere black box (Coleman 2016, 257).

Coleman's concern seems to be that the panpsychist who claims that 'phenomenal bonding is co-consciousness' is making some sort of category mistake. His claim appears to be that co-consciousness is the explanandum and we are in search of, precisely, an explanans for it: to cite co-consciousness *as* the explanans will

²⁹ Although Goff's claim is false, there does seem to be something in the idea that we only *encounter* the outcome of such necessitation. In general, in encountering a state of affairs which is the outcome of a certain bonding-type relation, viz. a composite object, if we grasp the relations which brought it about and the modal properties of its parts (i.e. that it and they could have been certain other ways or not, or part of that whole or not), then we are able to understand the state of affairs as the composite or as the non-composite set of individuals. Take, for example, when we inspect a lamp, or we inspect a water molecule. If we fully grasp the modal properties of their parts and the relations between them, then we can understand the lamp or molecule as a composite and as an unrelated set of individuals. If this is true, then although we only encounter the necessary product of phenomenal bonding, the point loses much of its force: firstly, I am directly acquainted with the co-consciousness relation, secondly, I can grasp the metaphysical isolation of subjects. These two things seem to be evidence that although I only encounter the result of phenomenally bonded subjects, I can nevertheless grasp something important about what it means for this result not to be the case and the relation that brings this result about.

³⁰ Coleman (2016) also makes a similar criticism as Goff above, but the comparative relation is a 'neutral-to-phenomenal bonding relation'. My response to Goff applies equally to Coleman's criticism.

not do, that would be putting the cart before the horse. This means that we cannot use co-consciousness as our concept of phenomenal bonding and that co-consciousness as phenomenal bonding does not constitute an *explanation*, merely an assertion of the thing to be explained.

Firstly, it is true that phenomenal bonding as outlined by Goff was a mere schema, a black box. But, now that I have shown that the co-consciousness relation satisfied all the conditions of such a schema, we are no longer in a position of having no positive concept of the relation. Co-consciousness is a relation that we are all acquainted with in our day-to-day conscious lives.

Secondly, Coleman's objection assumes a model of priority between subjects, experiences and unity, which need not be shared by the phenomenal bonding panpsychist. Here, Coleman assumes that subjects are in some sense prior to their experiences and the unity of each of their consciousnesses. For the panpsychist this is just not the case. In this way being co-conscious is not like being co-punched where we assume that there is *already* someone to do the punching. Being co-conscious, or more correctly being phenomenally bonded, is more like being covalently bonded. So, Coleman is correct in saying that if two experiences are co-conscious, then this implies a new subject has come into being for which they are jointly experienced. But, he is not correct in claiming that this does not tell us how. Precisely how that subject comes into being is by the elements of a set of experiences being phenomenally bonded together by the co-consciousness relation.

7. Conclusion

I have given three necessary and jointly sufficient conditions on a prospective phenomenal bonding relation, and I have made the case that co-consciousness may satisfy all three. If one is inclined to believe in the truth of panpsychism, then one should no longer be sceptical about forming a positive concept of the phenomenal bonding relation. If one should no longer be sceptical about forming a positive concept of phenomenal bonding, then one should recognise that phenomenal bonding panpsychism remains a viable, open and intelligible option amongst others. There remains more work that the phenomenal bonding panpsychist must do, further questions that they need to answer, more details to be worked out. However, having a positive concept of the phenomenal bonding relation means that we are increasingly closer to an attractive solution to the subject-summing problem.*

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