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The Emergence Problems after The Combination Problem

– Toward a solution of the problem of experience

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Abstract

Panpsychist and panprotopsychoist views have become more prominent during the past years, greatly due to Philip Goff, Galen Strawson, David Chalmers, William Seager and others. Panpsychism is the view that fundamental entities have phenomenal properties while panprotopsychoism is the view that fundamental entities have the potential to realise consciousness under certain conditions, in virtue of their proto-phenomenal properties. My focus will be, particularly, on constitutive versions of panpsychism, which entail the commitment to the constitutive grounding of ordinary subjects of experience in more fundamental phenomenal entities. More specifically, I will evaluate whether solutions to its "combination problems", which theorise the combination or decombination of fundamental entities, can be solutions of the problem of experience. Constitutive panpsychism attempts to avoid the emergence of consciousness altogether by postulating fundamental subjects, so that ordinary subjects should be explained exhaustively in terms of them. Emergentist panpsychism, by contrast, is a form of intelligible, or *non-brute*, emergentism which considers ordinary subjects to be something more than mere structure. However, I will argue that even constitutivism involves a type of emergence, *compositional or individualizing emergence*, which makes it collapse into emergentism. That also takes away its ability to solve the problem of experience through a combination problem. Furthermore, the problem of other minds puts epistemic limitations on our abilities to solve combination problems, which makes it improbable, even if constitutivism could avoid subject emergence, that it would be possible to reach an objective solution to the problem of ordinary subjects of experience through combination. Also physicalism is a form of emergentism but involves the commitment of the *brute* emergence of phenomenal properties from non-mental fundamental entities. I will show that it too gains an emergence problem as a consequence of a small conceptual shift that causes its collapse into panprotopsychoism. By recognising that there are common emergence problems, if not about phenomenal properties in general then about ordinary subjects, physicalists and pan(proto)psychoists can continue consciousness research as a collected force. I will also be presenting versions of emergentist panpsychism to exemplify views that already expect emergence problems and formulate questions for future research.

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1. Introduction

Traditionally, physicalism and dualism have been the main opponent views that disagree about the ontology of fundamental reality. Physicalism is a monistic theory according to which fundamental entities are purely non-mental while dualism entails the commitment to, additional, phenomenal fundamental entities. 'Russellian Monism'¹ is a recently developed cluster of views that offer ways to complement physicalism with *integrated* fundamental consciousness. One of its supposed strengths is that it preserves both the dualist's intuition that consciousness is an irreducible aspect of reality and the physicalist's monism (Alter and Nagasawa [2012] 2015, 87-88). Alter and Nagasawa define the view as the commitment to the theses of physical structuralism², realism about inscrutables, (proto)phenomenal foundationalism and type monism³ (Ibid, 68-71). The term 'inscrutables'⁴ (also 'quiddities'⁵) refers to intrinsic or categorical properties that supposedly belong to fundamental entities. For most versions, the inscrutables are considered closely related to consciousness. Even though recent pan(proto)psychism, which I will discuss in this paper, stems from Russellian Monism, I will not be applying the Russellian prefix because, like for example Goff (2017), I am not restricting pan(proto)psychism to type monism and the commitment to inscrutables. Though, it is worth noting that philosophers developing Russellian Monism (Alter, Chalmers, Goff, Howell, Strawson, Nagasawa et al.) have contributed greatly to the recent wave of consciousness research and have made clear why it is necessary – because there is still no solution to the problem of experience, and because physical sciences do not suffice or target all of the problems about consciousness. Physicalists turn only to physics for their metaphysical commitments⁶, so if physical sciences are lacking regarding some part of reality (consciousness), they have a problematic view. We know from first-personal experience that subjects of experience exist, despite the lack of third-personal objective proof, and despite them seeming superfluous to science. This is why *The Consciousness Constraint*⁷ is needed. Since the problem of other minds and the limit of physical observation prevents us from accessing and defining other subjects of experience there must be a constraint that keeps them in the scope of inquiry. Alternatives to physicalism are necessary because its commitment to the *brute* emergence⁸ of phenomenal properties from non-mental entities has halted the consciousness research by excluding the question

1 'Russellian' refers to Bertrand Russell (1872-1970), whose notion of physical structuralism has inspired the recent conception of Russellian Monism.

2 The view that "[p]hysics describes its most fundamental features only relationally" (Ney 2015, p. 346).

3 See p. 3 for definition.

4 Alter and Nagasawa ([2012] 2015, p. 70) attribute the term to Montero.

5 Chalmers uses the term ([2013] 2015).

6 See p. 5 for a closer definition of physicalism.

7 "Any adequate theory of reality must entail that at least some phenomenal concepts are satisfied" (Goff 2017, p. 3)

8 See p. 6 for the problem with brute emergence.

of why and how they emerge. To stop at the brute emergence of consciousness seems to be an easy way out of continued investigation.

The Combination Problem⁹ is a problem that is given attention in order to develop panpsychism. I will particularly discuss *constitutive* panpsychism to see if it would be able to offer answers to the problem of experience through its combination problems. It is a view that attempts to avoid consciousness emergence altogether by committing to fundamental subjects that due to their relational structure form ordinary subjects of experience.¹⁰ The minimal conditions for this type of structure is what is requested as a solution to The Combination Problem. Emergentist panpsychism, by contrast, attempts to make intelligible the *non-brute emergence* of ordinary subjects from fundamental entities with phenomenal properties, regarding them as more than mere structure. My question is whether a combination problem really can solve the problem of experience, and if it cannot, which questions should be asked going forward? Are there questions that can unify panpsychists with each other, and even with physicalists, in the consciousness research? I argue that even after eventual solutions to combination problems, there will still remain consciousness emergence problems, if not concerning consciousness altogether then concerning ordinary subjects of experience. Even imagined constitutive accounts of the grounding of ordinary subjects involve at least their compositional or individualizing emergence, despite the commitment to fundamental consciousness. Physicalism too, if it slightly adapts its specification of physical properties, gains an emergence problem where emergence once was accepted as a brute law. Recognising that emergence problems are common can fuel continued consciousness research after its halt caused by the commitment to the possibility of something such as *brute* emergence. Questions about the ultimates and their responsibility for the emergence of ordinary subjects could also unify panpsychism by eliminating strict constitutivism.

2. Terminology

*Ultimate*¹¹ refers to 'fundamental entity'. All entities that are not ultimates can be explained in terms of them.

Token monism (also 'priority monism'¹²) refers to the commitment to one token ultimate.¹³ Monistic views like panpsychism and physicalism can be either token- or type-monistic.

9 Seager named The Combination Problem in 1995 but James formulated a similar problem in 1890 (Coleman 2014, p. 26).

10 See p. 3 for specification of "ordinary subject" (O-subject).

11 Goff (2017, p. 188) attributes the term to Strawson (2006a).

12 Goff (2017, p. 224) uses the term and attributes it to Schaffer (2007).

13 Alter and Nagasawa ([2012] 2015, p. 68) use this term and definition.

Type monism refers to the commitment to only one *type* of ultimates,¹⁴ for example a physical- or a phenomenal type. It usually implies micro-foundationalism, also called “smallism”¹⁵, the view that macro-entities are grounded in micro-entities.

*The Cosmic Ultimate*¹⁶ refers to the one ultimate for token monism.

*O-subject*¹⁷ refers to a pre-theoretical, ordinary subject of experience, like yourself.

*O-consciousness*¹⁸ refers more generally to the type of consciousness that O-subjects are.

*Non-mental*¹⁹ refers to that which lacks phenomenal properties.

Phenomenal properties are contrasted against non-mental properties. The definition is debatable, which will be brought up in the discussion, but here it should be read as 'internal state' or 'consciousness' rather than 'O-consciousness'. I do not use it synonymously with 'experience' or 'subject' although it is closely related to those terms.

Protophenomenal properties refers to properties that necessitate phenomenal properties.²⁰

Panpsychism refers to the ontological commitment only to ultimates with phenomenal properties.

*Panprotopsyichism*²¹ refers to the ontological commitment only to ultimates with protophenomenal properties in conjunction with the commitment to consciousness.

Pan(proto)psychism refers to both panpsychism and panprotopsyichism at once.

Constitutive panpsychism, here also 'constitutivism', refers to panpsychism with the commitment to the constitutive grounding-relationship of O-consciousness in the ultimate/-s, which means that a description purely of the ultimate/-s would entail all the information necessary to explain each instance of O-consciousness.

Emergentist panpsychism refers to panpsychism with the commitment to O-consciousness as emergent from the ultimate/-s, which means that a description only of the ultimate/-s is insufficient in explaining O-consciousness. At times I use 'emergentism' to refer to the view, but only when it is contrasted with constitutivism, because emergentism is inclusive to panpsychism.

Remark: Although I use the terms 'panpsychism' and 'panprotopsyichism' I do find that 'psyche' has too close connotations to the phenomenal properties associated with O-consciousness. The terms 'phenomenal monism' and 'protophenomenal monism' can potentially be used instead, but for now I remain with pan(proto)psychism because of the established status of the terms.

14 Alter and Nagasawa ([2012] 2015, p. 68) use this term and definition.

15 Goff (2017, p. 233) uses the term and attributes it to Coleman (2006).

16 My formulation.

17 The term comes from Goff (2017, p. 144).

18 Ibid.

19 I have taken the term from Strawson ([2008] 2015).

20 I have taken the term 'protophenomenal' from Chalmers ([2013] 2015).

21 Ibid.

3. Consciousness is something more than physical facts

In this section, as a form of background, I explain why there is a problem of experience and why it likely cannot be solved by physical sciences such as neuroscience. This is the motivation for why philosophical consciousness research needs to continue and the reason why alternative theories are being developed that diverge from physicalism.

3.1. The Hard Problem of Consciousness

The Hard Problem is "the problem of experience" (Chalmers [1995] 2006, 226) and probably the core motivation for philosophers to continue consciousness research. Chalmers, who named the problem and separated it from "the easy problems of consciousness" (Ibid, 225), writes that "the hard problem is hard precisely because it is not a problem about the performance of functions. The problem persists even when the performance of all the relevant functions is explained" (Ibid, 227). Consciousness must be something more than neurological facts if it is not exhaustively explained by them. What Chalmers called the "easy problems" are the ones that physics can answer, for example causal explanations about the behaviour of supposedly conscious beings. *Supposedly* conscious, I point out, because of the classical *problem of other minds* that prevents one from proving that anyone is a subject of experience from a third-personal perspective.

A formulation of The Hard Problem:

Why and how do subjects of experience exist if they are additional facts that are undetectable and unexplainable using physical sciences?

One who commits to physics as the sole explanatory method for fundamental reality may be content with physicalism, the currently mainstream metaphysical view in the Western world. The view is, however, generally not tasked specifically with the problem of *experience*. It is a problem that opponents of physicalism tend to raise. The commitment to consciousness is what motivates the pan(proto)psychist's view to differ from physicalism, and it can take the form of a formal commitment to **The Consciousness Constraint**: "Any adequate theory of reality must entail that at least some phenomenal concepts are satisfied" (Goff 2017, 3). I hereby announce my commitment to this axiom. My motivation for this commitment is that consciousness is the enabling condition for the possible knowledge of all else, and the only thing that I can know for certain exists. A theory of reality that does not explain consciousness leaves out the most important *explanandum*.

3.2. Physicalism and the belief in neuroscience

According to Ney, a well-known physicalist, one can be physicalist either by reserving one's metaphysical commitments to the findings of physics or by adopting the *No Fundamental Mentality Constraint* (2015, 368). Her distinction makes it visible that one does not necessarily need to mention and reject mentality²² to be a physicalist. Physicalists can commit to the constraint below regarding what entities are physical while claiming that these entities are the only ultimates.

The No Fundamental Mentality Constraint:

“An entity is physical if and only if (i) it is treated, approximately accurately, by current or future (in the limit of inquiry, ideal) versions of fundamental physics, and (ii) it is not fundamentally mental.“

(Wilson 2006, 72)

Physicalists are accepting the emergence of consciousness as “brute”, in the sense that they regard phenomenal properties to arbitrarily emerge from the above mentioned, completely non-mental, ultimates that can be treated by fundamental physics. Neuroscientists, who are using physical sciences to investigate the brain and nervous system, are not necessarily tasked with the problem of experience. They are tasked, for example, with the correlations between mental states and physical states (“easy problems”). However advanced such research may be, any findings would likely not explain *why* or *how* first-personal experience can occur. The subject of experience is not necessarily included in the same scope of inquiry as the nervous system because the former is an additional fact that cannot seem to be deduced from studies of the latter. As the classical example goes: we can conceive of zombies, neurological processes without additional experience. That does not mean that experience does not exist but rather that studying the brain purely from an external point of view is insufficient when studying consciousness.

Since physics concerns causal events and the physical is considered causally closed, any facts about subjects of experience seem superfluous. If no more questions are asked about why and how there are kinds of internal facts that are out of reach for physical sciences, the scope of inquiry is limited. Goff is convinced that Galileo Galilei contributed to this limitation “[...] by supposing that the sensory qualities are not in the physical world” (2017, 1). Doing this facilitated mathematics as a successful language of science, since it only considered the observable and not consciousness. However, Goff also claims that Galilei placed consciousness outside of science because he believed

²² 'Mentality' is usually used synonymously with 'phenomenality'.

in souls (2019, 21), which means that he was a dualist who actually did find consciousness irreducible.

3.3. The problem with brute emergence

For Y truly to emerge from X is for Y to arise from or out of X or be given in or with Y given how X is. Y must arise out of or be given in X in some essentially non-arbitrary and indeed wholly non-arbitrary way. X has to have something – indeed everything – to do with it. That's what emerging is [...] It is essentially an in-virtue-of relation. It cannot be brute.

(Strawson [2006] 2008, 66)

To say that consciousness is brutally emergent is to say that it is in no way prefigured given how the ultimates are, and that it is just an unexplainable law that physical properties sometimes necessitate phenomenal ones. Though, from the sole fact that consciousness exists, one should be able to draw the conclusion that there is something about the ultimates that enables its necessitation – if the thought ultimates truly are ultimates. In the upcoming sections I am going to address the difficulties with *configurationist* explanations of consciousness, which rely on accepting brute emergence, as well as the general **epistemical** difficulty of solving combination problems.

3.4. Configurationism

Dorsey (2011) has identified that mainstream physicalism seems to entail the somewhat hidden thesis *configurationism* about consciousness. Configurationism means that “only highly-configured physical entities are conscious or mental in any way” (Ibid, 210). Configurationists regard phenomenal properties to be emergents that are **arbitrarily necessitated** by the high complexity of the physiology of some entities. The theory is not entailed in the definition of physicalism and appears only in contexts of consciousness problems. Because it is a non-essential feature, there arguably must be other alternative theories. However, even after configurationists have accounted for eventual high configuration in terms of some complex particle combination of a supposedly conscious entity (if such an account is even possible), the problem of the *emergence* of experience remains. *Why* and *how* does consciousness, or phenomenal properties, obtain due to high configuration of something essentially different, something *non-mental* without a trace of anything that prefigures something phenomenal? To say that the emergence is brute is to answer that not only can we not find out, but that there is no way to describe it other than as a fundamental law.

A physicalist combination problem (The Configuration Problem):

Which combinations of non-mental ultimates are sufficient for causing phenomenal properties? (What is sufficient for high configuration?)

Assuming that the ultimates are considered to be at the micro-physical level, a solution would merely describe the physiology of a supposedly conscious being. If one additionally asks *why* (in virtue of what?) and *how* the emergence happens, why consciousness is intelligible considering how the ultimates are, one is recognising that there are emergence problems. A description, for example, of the combination of sub-atomic particles, organised in atoms, organised in molecules, organised in cells, organised in a human embryo or child could not suffice as *a description of the minimal definition of high enough configuration for causing consciousness* in case other animals are conscious too. In order to find the *minimal*, merely *sufficient*, physical conditions, one arguably must find a being that is just barely conscious (whatever that means) and analyse its physiology.

One of the epistemic problems for the configurationist, and anyone who approaches a combination problem, is how to be able to account for any minimal conditions when **it is impossible to prove objectively where, or that, there is consciousness**. To be able to solve The Configuration Problem, one must be able to prove who is a subject of experience. If that cannot be done due to the problem of other minds, how would one be able to account for the *minimal* conditions for sufficiently high configuration? This is not only a problem for physicalism, but for every view that approaches the problem of experience through a combination problem. There is, of course, the option of using a classical argument from analogy when it comes to affirming human and some other animal consciousness, but such analogies (X is similar to me so X must be conscious like me) are **too relative and arbitrary**. It is highly questionable whether behavioural and morphological analogies would suffice when accounting for minimal consciousness. Some would not, when using an argument from analogy, want to recognise other species of animals conscious while many others would. Moreover, what is required are the *minimal* conditions for when for when the simplest structure of ultimates necessitates an emergent conscious individual (phenomenal properties). What is required is not a mere physiological description of an arbitrary reportedly conscious entity or an arbitrary entity which is deemed conscious by relative and arbitrary analogy.

Another problem for the configurationist, as well as for any type of physicalist, is that she additionally needs to find a way to defend why emergence can be brute. As Strawson wrote, emergence is an “in-virtue-of relation” ([2006] 2008, 66). A defense of the commitment to brute

emergence should be possible only by rejecting other accounts of non-brute emergence, because a brute fact by definition is fundamental and without explanation. I will address theories of the non-brute emergence of O-subjects in an upcoming section, including a version that I find compatible with physicalism.

4. An attempt at avoiding emergence: Constitutive panpsychism

Coleman writes that for Strawson, a known panpsychist, "[...] nothing short of positing phenomenality as a property of the ultimates will suffice as an explanatory basis for macro-consciousness" (2014, 23). In this context, "macro-consciousness" means the same as 'O-consciousness'. Panpsychists do not find it intelligible that consciousness altogether would be non-existent before, or without, the existence of O-consciousness as we define it. If the ultimates have phenomenal properties they already prefigure O-consciousness which then appears to not be the only possible form of consciousness. Because consciousness is supposedly present in the ultimates, its *initial* emergence is avoided. Constitutive panpsychism is a theory about the constitutive grounding of O-subjects in the ultimates. It is the attempt to avoid the emergence of consciousness altogether by postulating conscious ultimates²³ and supposing that everything else, including O-subjects, can be explained exhaustively in terms of their structure. Below I will discuss constitutive micropsychism and cosmopsychism in order to see if subject emergence really can be avoided altogether. If it could, a solution to The Combination Problem may be a solution to the problem of experience.

4.1. Constitutive micropsychism entails emergentism

Micropsychism²⁴ is the name for type-monistic panpsychism. It speculates that all ultimates (that are considered to be at the micro-level) have phenomenal properties. In contexts of panpsychism, 'phenomenal property' is often taken to be synonymous with 'subject' (Goff, Coleman, Chalmers et al.). Therefore, a commitment to micro-level ultimates with phenomenal properties is often associated with a commitment to micro-subjects (of experience). According to *constitutive* micropsychism, O-subjects are structures of ultimates with phenomenal properties (Coleman 2014, 39). Constitutivism implies that O-subjects are *nothing more* than aspects of the all-pervasive structure of micro-subjects which means that they would be exhaustively described only by referring to the micro-subjects.

23 Alternatively, *an* ultimate (for cosmopsychism).

24 The term is used by Goff (2017).

Micropsychists face the original form of The Combination Problem, *The Subject-summing Problem*,²⁵ when approaching the problem of experience. It is described as “the most paradigmatic form of the combination problem” (Goff 2017, 166) and “the 'real' combination problem” (Coleman 2014, 29). What Coleman means is that *subject* combination is the real problem and that other problems about phenomenal *quality* combination like *The Palette Problem*²⁶ are not as severe or of equal interest. It is also the only one of the problems that concerns ordinary subjects of experience, which is why I am addressing it here. If we could make sense of O-subjects as structures in terms of micro-subject combination, we could possibly solve the problem of experience without accounting for its emergence.

A formulation of The Subject-summing Problem:

Which combination of micro-subjects (ultimates with phenomenal properties) is sufficient for constituting an O-subject?

Coleman finds incoherency in the mere concept of subject combination: “[...] if one point of view remains at least one point of view has been eliminated, which is not combination” (2014, 32). He is pointing out that 'subject' is synonymous to “point of view” and that an O-subject is *a* point of view, not several. However, he does not pay attention to the conceptual possibility that an emergent conceivably can be said to be *caused* by a “combination” of ultimates, though it is not wholly *constituted* by them. When he mentions “combination”, he actually seems to mean constitution. He claims that in cases of combination (constitution), the combining parts “survive” in the whole, in the sense that they would be possible to identify at a decombination of the whole (Ibid, 31). What seems implausible is that an O-subject's point of view would be best described as the *points* of view of an array of micro-subjects.

Furthermore, to make panpsychism intelligible, we need not assume that 'phenomenal property' must be synonymous to 'subject'. O-subjects are by definition *subjects of experience*, and phenomenal properties are indeed associated with such consciousness (O-consciousness) but, arguably, what necessitates O-subjects must not be fully formed subjects of experience to make them intelligible. It must, however, be closely experience-related. It is possible to conceive of 'phenomenal properties' as something broader than actual "points of view", i.e. as something O-consciousness-related though non-experiential. Although, rejecting micro-subjects would

25 It is Goff's formulation (2017, p. 165).

26 Chalmers writes about the problem (2017, p. 84).

reintroduce the need to account for initial subject emergence and disable the potential of the solution of the constitutivist's combination problem to be a sufficient solution of the problem of experience. Conceiving of phenomenal micro-ultimates as non-experiential would necessarily be a form of emergentist micropsychism with regards to O-consciousness, an alternative which will be addressed in an upcoming section.

Moreover, what *suffices* as an O-subject for a micropsychist? The only reason why constitutive micropsychism potentially could have solved the problem of experience was because it postulated micro-subjects as brute, so that there supposedly would be no need to explain *initial* subject emergence. Then, only a solution to The Combination Problem, regarding how micro-subjects are arranged as macroscopical O-subjects, remains to be figured out. If constitutive micropsychists would be able to solve their combination problem, they would be providing an account of a combination of ultimates that is the minimal structure of an instance of O-consciousness, but how would one be able to know where the limits between different structures are? The existence of a multitude of micro-subjects *without* the existence of several necessitated, individual O-subjects is obviously conceivable, which has been pointed out by Goff and others, and that is as much of a problem as the conceivability of neurological activity without consciousness (i.e. the conceivability of zombies). There seems to, as a consequence of a strictly constitutive account, be no way to distinguish one co-conscious micro-subject structure from another. For O-subjects to exist in plural they must be *limited* structures among structures, and as such, individuals. There is nothing about a description of an array of micro-subjects that shows why some of them are co-conscious as a particular O-subject and why some of them are not. Goff presents the suggestion that composition might be a form of emergence (2017, 192). I argue that an individual O-subject's limits and distinction from its environment as a co-conscious structure must be a form of *compositional emergence*. This speaks against the coherency of strict constitutivism since O-subjects would not be exhaustively explained only by referring to micro-subjects. For an O-subject to exist as an individual structure among structures they must be at least compositionally emergent. This causes the seeming division between emergentism and constitutivism to dissolve.

Now, how should we define composition? One potential requirement is that something needs to be an *organism* to be composed. The reason for this is the autonomy and self-sustaining ability of an organism compared to its surrounding environment. It is emergent as an *individual* structure among structures.²⁷ If an O-subject is going to be described as co-conscious micro-subjects, there is the

²⁷ Ideas about organisms will be brought up again on p. 15.

problem of accounting for the compositional emergence that causes its limited co-consciousness.

However, it is likely that we are epistemically limited in solving The Combination Problem due to the problem of other minds. If we cannot access other instances of O-consciousness, we are also unlikely to access instances of micro-consciousness. This renders us unable to confirm whether ultimates are conscious. A consequence of this would be that micropsychism likely cannot be confirmed even if it would be true.

What constitutive micropsychism does is that it frees us from the obligation to account for the initial emergence of phenomenal properties, but it does not free us from the obligation to account for O-subjects as compositionally emergent and limited co-consciousness. This indicates that micropsychism necessarily is emergentism. Emergentist micropsychism will be addressed further in an upcoming section.

4.2. The option of token monism

Cosmopsychism is token-monistic panpsychism which means that it has a holistic perspective and considers the cosmos to be the fundamental (phenomenal) entity (Goff 2017, 220). It is worth to note that it is becoming more intuitive with token monism due to the implications of quantum mechanics. A physicalist token-monistic view, for comparison, is *wave function monism*²⁸. It postulates the quantum mechanical wave function as the fundamental entity. It is interesting to compare cosmopsychism with wave function monism because of their similarity in the commitment to one ultimate. If there really is one ultimate, it should be the same entity that cosmopsychists and wave function monists refer to. Reading about wave function monism with The Consciousness Constraint in mind may be beneficial for developing cosmopsychism. Where micropsychism and physicalism would ask about combinations, cosmopsychists and wave function monists would ask about states or conditions, considering that the one ultimate cannot combine with any other ultimate. It can, however, fluctuate over time. If panpsychism would have been developed during a time when wave function monism was the mainstream physicalist view, micropsychism would likely not have existed, because “smallism” would not have been equally intuitive. Instead, panpsychists would probably have complemented wave function monism with consciousness through cosmopsychism directly. That would, however, lead to an emergentist version of cosmopsychism. Constitutive cosmopsychism, which will be addressed in the next section, does not consider the wave function and, instead of analysing downward, analyses upward to reach token monism.

²⁸ See Ney and Albert (2013) for more on wave function monism.

4.3. Constitutive cosmopsychism

Goff suggested that the relationship between The Cosmic Ultimate²⁹ and O-subjects, for constitutive cosmopsychism, should be understood in the way that the latter are aspects “grounded by subsumption” in the former (2017, 227). Grounding by subsumption, according to him, solves the problem of the seeming irreducibility of O-subjects that makes their deflation down to micro-subjects difficult to conceive of (Ibid, 232). It is, for constitutive cosmopsychists, thought to be more intelligible that an O-subject is an irreducible aspect of something unknown that is greater than it, than for it to be analysed away as a mere structure. The theory seems partly motivated by that there would be less expectation that O-subjects are able to fully understand how they are necessitated by The Cosmic Ultimate than there would be if micro-entities were ultimates. That is, however, an epistemic problem. Only because we have a difficult time grounding O-subjects in micro-level entities, we cannot assume that they are not ultimates. Considering the previous section about how token monism can be intuitive, there is clearly another way to reach token monism than to merely “analyse upward”³⁰ and ground by subsumption, namely by continuing to analyse downward to the level of quantum mechanics and the wave function. Below is a formulation of The Decombination Problem³¹ for constitutive cosmopsychism, an analogy to The Subject-summing Problem that relies on grounding by O-subjects by subsumption.

A formulation of The Decombination Problem:

In what way are O-subjects parts that are decombinaible from The Cosmic Ultimate?

The Cosmic Ultimate is sometimes referred to as a cosmic “subject” in cosmopsychist contexts due to its supposed phenomenal properties, just in the same sense that ultimates with phenomenal properties are conceived of as micro-subjects for micropsychism. Although, cosmopsychists usually assume that The Cosmic Ultimate lacks its own perspective and rather is a “formless sea of awareness” (Shani and Keppler 2018, 402) or a “substrate of consciousness” (Keppler 2013, 4). Shani and Keppler are actually cosmopsychists of an emergentist type, but I have not encountered any panpsychist who conceives of The Cosmic Ultimate as a conscious entity with its own perspective, as if it were a “god” or something of the like. 'Phenomenal' about The Cosmic Ultimate is used in a broader sense that does not include its own unified experience. The Cosmic Ultimate could possibly be seen as an “objective” sum of all subjects which lacks its own perspective in

29 Goff (2017, p. 179) calls the entity “Consciousness+”.

30 Goff (2017) uses the expression.

31 'The Decombination Problem' is the name Goff (2017, p. 288) uses and Chalmers (2017, p. 196) uses 'The Decomposition Problem'.

virtue of being objective. Anyway, it is odd that micropsychists can conceive of micro-subjects as parts of further perspectival subjects while cosmopsychists cannot conceive of O-subjects being parts of one. If The Cosmic Ultimate is regarded to be a *structure* of O-subjects and eventual micro-subjects, it could, using the logic of constitutive micropsychism, be perspectival. Although, constitutive micropsychists may want to argue that O-subjects are parts of further perspectival subjects too, or (as a consequence of the collapse into emergentism) that O-subjects actually are *limited* co-conscious individuals due to their compositional emergence and therefore not parts of any further co-conscious structure.

Constitutive cosmopsychism seems to be a mere inversion of constitutive micropsychism that also faces a problem similar to that of compositional emergence. The compositional part-whole emergence for micropsychism and the individualizing whole-part emergence for cosmopsychism seem analogous. For a solution of The Decombination Problem to be a solution of the problem of experience, it would be necessary that The Cosmic Ultimate entails the simultaneous experiences of all O-subjects so that the latter can be explained exhaustively by describing the former, without any additional (individualizing) emergence to account for. That seems very difficult considering that O-subjects as individuals have distinct and different perspectives that also, in virtue of being limited, are shielded from each other's perspectives. One should not simply rely on the unknown nature of The Cosmic Ultimate to make sense of panpsychism. Since O-subjects have individual perspectives they should be emergent in a similar sense as co-conscious structures are thought to be. Let us call this the *individualizing emergence* of O-subjects. It also seems that the only way that constitutive cosmopsychism can avoid emergence is by saying that each O-subject always has existed. If there are different O-subjects at different times, new ones must somehow come to be. Would that not entail emergence rather than strict constitution considering that the whole cosmic ultimate existed previous to the new O-subjects? Constitutive cosmopsychism has serious problems about making sense of O-subjects as temporary and individual though non-emergent experiences that are decombinable from the "experiences" of The Cosmic Ultimate. To consider emergentist versions of cosmopsychism should be an option for the panpsychist who wants to remain with token monism. Those who were attracted to constitutive cosmopsychism because it does not allow the deflation of O-subjects down to micro-subjects will find that O-subjects also according to emergentist cosmopsychism are irreducible though they are grounded in something else than a mere sum of O-subjects. It also does not involve the need to make sense of O-subjects as parts of the actual experiences of an aperspectival cosmic ultimate.

5. Non-brute emergentism

Emergentist panpsychism is, naturally, already expected to face emergence problems. Since constitutivism collapses into kinds of non-brute emergentism, seeing how emergentist accounts describe O-subject emergence may contribute to the unification of panpsychism and the understanding of what emergence problems are. Emergentist views would not solve the problem of O-subjects' experiences through (de-)combination problems because they additionally, or instead, would need to account for their emergence. I am including emergentist views in this section to exemplify non-brute emergentism.

According to Coleman, panpsychists are against emergentism (2014, 21). However, the anti-emergentism that he mentions is actually the reluctance to accept specifically *brute* emergence. For pan(proto)psychists, the emergence of O-consciousness must be non-brute (intelligible) to be possible at all, in the sense that the ultimates must prefigure it by possessing some type of (proto)phenomenal properties. The initial intuition against brute emergence needs not entail the intuition that O-consciousness cannot emerge at all. As previously mentioned, since also constitutivism involves at least the compositional or individualizing emergence of O-subjects, it seems that panpsychism necessarily is emergentism.

5.1. Emergentist micropsychism

Emergentist micropsychism suggests that ultimates with phenomenal properties *necessitate* emergent O-subjects (Goff 2017, 173) which means that the latter are something more than mere structure. In light of the previous discussion of constitutive micropsychism, this necessitation could potentially be viewed as the compositional emergence which leads to the co-consciousness of micro-subjects. Though, one question is whether it is intelligible to speculate that ultimates are micro-subjects of experience or if 'phenomenal property' could be used in a broader sense that does not include experience. I use micropsychism1 and micropsychism2 to distinguish between the view with a commitment to fundamental micro-subjects of experience and the view with a commitment to ultimates with phenomenal properties in a broader sense. Micropsychism2 does not entail co-consciousness. Instead are the phenomenal properties of several ultimates together supposed to realise O-consciousness under certain relational conditions (combinations, if you will). For micropsychism1, the initial emergence of micro-subjects would not be necessary to account for, but the emergence of O-consciousness would be. O-subjects are not *deflated* as structures for the emergentist micropsychist, although their emergence is thought to be caused by ultimates that are

structured in a certain way, either co-conscious (for micropsychism1) or together necessitating O-consciousness (for micropsychism2). There seems to be no significant difference between “constitutive” micropsychism with compositional emergence and the mentioned conception of emergentist micropsychism1.

For emergentist micropsychists, an explanation only in terms of ultimate combination would not suffice as a solution of the problem of experience. Such an explanation would be analogous to a physical description of a supposedly conscious entity, but with the supplement of the seemingly undetectable phenomenal properties of the ultimates. Emergence, either of O-consciousness from phenomenal properties (micropsychism2) or of O-consciousness from micro-subjects (micropsychism1), would need to be accounted for additionally. The question is, then, why and how does limited co-consciousness happen (micropsychism 1)? Alternatively, why and how do phenomenal properties realise experiential macro-subjects (micropsychism2)?

The following is a suggestion regarding how to possibly make sense of O-subjects as limited co-conscious structures of micro-subjects, which hints at a possibility of distinguishing where there are phenomenal properties despite the problem of other minds. O-subjects seen as co-consciousness would be more intelligible if *cells* were considered conscious than if the ultimates were considered conscious. Cells are individuals that can easily be seen as compositional or individualized emergents. They are also what is common among supposedly conscious beings. This consideration may turn micropsychists to panprotopsychism³² because then the ultimates can be considered protophenomenal if cells are the minimal conscious subjects. The way to distinguish consciousness scientifically, then, would be to distinguish life forms. A consequence would be that plant life has some type of consciousness too. The autonomy of life forms in the interaction with their environments seems to be an emergent feature that implies some kind of subjecthood and individuality, if not experiential in all cases then something more primitive though subjective. Compositional or individualizing emergence intuitively seems like a suitable description of how organisms came into existence from non-organisms. Furthermore, cells can easily be conceived of as contributing to the consciousness of a conscious entity, in form of their co-consciousness. If only more advanced organisms have conscious internal states, it is going to be very difficult to know exactly when they obtain due to the problem of other minds. If all organisms do obtain subjective internal states, it would be possible to explain initial consciousness emergence in terms of the compositional emergence of cells and organisms. This would also raise the question of whether all

32 Panprotopsychism will be addressed in more detail in an upcoming section.

consciousness is *experiential* or if, for example, the eventual consciousness or subjectivity of bacteria, fungi and plants is of a different type.

5.2. Emergentist cosmopsychism

Emergentist cosmopsychism is very different from all the other views addressed in this paper and it is briefly included here to serve as another example of non-brute emergentism. It succeeds to make sense of O-subjects in a way that constitutive cosmopsychism does not because O-subjects can, as emergents, be conceived of as both temporary and individuals. It does not require that the aperspectival cosmic ultimate experiences anything and that those experiences are separated by individualizing emergence into the experiences of O-subjects. O-subjects would instead emerge individually in virtue of enabling conditions in The Cosmic Ultimate which has non-subjective, though somehow phenomenal, properties (depending on the definition of phenomenal properties, non-experiential phenomenal properties may be regarded protophenomenal). O-subjects would, then, explainably not exist in “combination” but simply in co-existence. If the view would have a problem corresponding to The Combination Problem it would be a condition problem regarding which states in the phenomenal cosmic ultimate are the enabling conditions for the emergence of O-consciousness. Another way to phrase the question is, what is the dependent relationship between an emergent O-subject and the phenomenal cosmic ultimate? However, if we cannot prove where there is minimal consciousness, the answers to these questions are difficult to find. Of course, more can be asked about The Cosmic Ultimate and *how* it enables consciousness, in order to potentially overcome such epistemic difficulties.

Shani and Keppeler are two contemporary emergentist cosmo(proto)psychists that argue for a view according to which there are strong connections between O-consciousness and the wave function, the token fundamental entity shared with wave function monism. Their theories are based on interpretations of stochastic electrodynamics, with the addition of The Consciousness Constraint. In short, they are proposing that the background field (*ZPF*/zero-point field/vacuum field) is an “ubiquitous field of consciousness” (2020, 1). Below is their “filtering hypothesis” which explains how they think that conscious states obtain.

[T]he phenomenal portrait of each quantum coherent system is a function of the manner in which it resonates with the *ZPF*, stirring the latter into a unique set of phase-locked modes. The individual dynamical properties and the contextual embeddedness of each such system ensure the uniqueness of the phenomenal

portrait it carves for itself through its ongoing interaction with the ZPF, so that no two subjects are phenomenally identical in all respects.

(2018, 401)

Their account is interesting in the way that it proposes an actual all-pervasive field (the zero-point field, *ZPF*) as the substrate of consciousness. It definitely needs more reviews and such approaches, that involve collaboration between physicists and philosophers, have big potential in the development of pan(proto)psychist theories that link consciousness and fundamental physics.

5.3. Panprotopsychism: preserving the fundamental non-mental

In this section I address another form of non-brute emergentism and explain how physicalism can be compatible with it.

Panprotopsychism is based on the same ground as panpsychism, the thesis that consciousness must have its explanation in the properties of the ultimates to be possible. Consciousness is thought to obtain in virtue of the protophenomenal properties of the non-mental ultimates (Chalmers [2013] 2015, 180). The view can be adopted as a way for physicalists to avoid both brute emergence and fundamental mentality. The difference between physicalism and panprotopsychism seems to be mainly a conceptual one and there may be no actual disagreement when details are revised. Both physicalists and panprotopsychists regard the ultimates non-mental, and nothing in the definition of physicalism forbids the interpretation that non-mental ultimates *can*, or maybe even *tend to*, cause consciousness under certain conditions, which in itself would imply that ultimates are protophenomenal. That special arrangements of non-mental ultimates somehow necessitate phenomenal properties can be accepted by both physicalists and panprotopsychists. However, the panprotopsychist recognises that the ultimates must have some properties that prefigure consciousness and chooses to emphasise that, likely because they regard consciousness to be what ultimately needs an explanation. Of course, emergence problems about *how* ultimates prefigure consciousness emergence remain. By the small conceptual shift to panprotopsychism, the physicalist admits that there are emergence *problems*, at least about O-consciousness if not about other forms of consciousness, and thereby expands her scope of inquiry. By replacing the concept of non-mental ultimates with 'protophenomenal ultimates' one is just making a specification of the ultimates' apparent responsibility for consciousness.

A solution to a panprotopsychist combination problem could potentially describe the physiology of a supposed O-subject, but it could not explain *how* phenomenal properties are necessitated by

protophenomenal properties. Moreover, how could one ever be able to offer the minimal conditions for O-consciousness considering the problem of other minds? Determining consciousness in others seems to be a persisting epistemic problem which prevents solutions to combination problems. This also makes it practically impossible to find out whether panprotopsyichism or panpsychism is true, because if we cannot access the internal phenomenal states of O-subjects, we are unlikely to be able to access the internal states of the ultimates. The panprotopsyichist can, unlike the physicalist, at least explain *why* consciousness can occur: because of the protophenomenal properties of the ultimates.

If the ultimates have phenomenal or protophenomenal properties, which difference would it really make? Co-consciousness and micro-subjects as the explanation of O-subjects and the world is a radical notion that would change how we look at reality, but panprotopsyichism would allow reality to seem quite similar, with the differences that consciousness would be given its much deserved importance and that there would be ongoing research about the emergence problems.

6. Conclusion

We cannot seem to escape from emergence problems of consciousness. Even if consciousness would be fundamental, the need to account for *O-consciousness* would remain, for example in terms of compositional emergence. It was only for constitutive panpsychism that combination problems had the potential to solve the problem of experience because O-subjects' experiences could, if strict constitutivism were possible, be explained completely in terms of fundamental micro-subjects. However, O-subjects are seen as (co-conscious) structures according to the view and if there are several individual structures of co-consciousness they are emergent as such limited individuals. Constitutive cosmopsychism has an analogous problem because O-subjects are emergent in the sense that they are individual and temporary which does not seem compatible with strict constitution, regardless of the unknown nature of The Cosmic Ultimate. Because strict constitutivism seems impossible, due to that the experiences of O-subjects seem impossible to make sense of by only mentioning the ultimate/-s, The Subject-summing Problem and The Decombination Problem appear to be insufficient ways to account for O-subjects. *Emergence problems* about O-consciousness must be investigated.

Panprotopsyichism and emergentist panpsychism are both forms of emergentism that disagree in their speculation about the properties of the ultimate/-s, properties that seem inaccessible. The epistemic limitation illustrated by the problem of other minds indicates that it may be impossible to prove where there are phenomenal properties. There remain questions about whether phenomenal

properties are emergent or if only O-consciousness is, and about whether it is the matter of compositional emergence or some other type of emergence-relation such as the one described by Shani and Keppler.

An agreement on that emergence must be intelligible (non-brute) to be possible, on that "Y must arise out of or be given in X in some essentially non-arbitrary and indeed wholly non-arbitrary way" (Strawson [2006] 2008, 66), can lead to a common goal for physicalists and pan(proto)psychists: solving the problems about the emergence of consciousness, if not consciousness altogether then O-consciousness. The commitment only to non-brute emergence in conjunction with the commitment to O-consciousness entails that the ultimate/-s must be at least protophenomenal if not phenomenal (in a broader sense or in an experiential sense). The difference that such a metaphysics makes is that it gives substantially greater significance to consciousness by recognising that it is what we ultimately need to explain, the only phenomenon that we know for certain to exist and that is the condition for all other knowledge. Going forward we should investigate emergence problems: *how* the ultimate/-s (whether they are phenomenal or protophenomenal) prefigure/-s O-subjects. Whether it is possible to answer the problems of (O-)consciousness emergence and what form such an answer would have is the subject for future research.

Some of the questions contained in the emergence problem are:

- 1) Are the ultimates³³ phenomenal or protophenomenal? If the ultimates are protophenomenal, which are the minimal phenomenal entities? If the ultimates are phenomenal, which are the minimal O-conscious entities? Which are the minimal conditions for (O-)consciousness to obtain?
- 2) What is it that happens during (O-)consciousness emergence? What is it that happens with the ultimate/-s when an entity emerges as an individual and attains consciousness?
- 3) Since it is difficult to access the phenomenal or protophenomenal properties of the ultimates if they are sorts of internal states, is there anything in their observable *behaviour* that indicates consciousness or potential consciousness that would explain the tendency toward the necessitation of O-consciousness (perhaps when O-subjects are conceived of as compositionally emergent individuals)?

33 Alternatively, *the* ultimate.

References

- Albert, Z. David (2013), “Wave Function Realism”, *The Wave Function: Essays on the Metaphysics of Quantum Mechanics* (ed. Ney and Albert), Oxford, Oxford University Press: pp. 52-7.
- Alter, Torin and Yujin Nagasawa ([2012] 2015), “What is Russellian Monism?”, *Consciousness in the Physical World: Perspectives on Russellian Monism* (ed. Alter and Nagasawa), Oxford, Oxford University Press: pp. 67-95.
- Chalmers, David ([1995] 2006), “Facing Up to the Problems of Consciousness”, *Theories of Mind: An Introductory Reader* (ed. Eckert), Oxford, Rowman & Littlefield Publishers, pp. 224-249.
- Chalmers, David ([2013] 2015), “Panpsychism and Panprotopsyism”, *Consciousness in the Physical World: Perspectives on Russellian Monism* (ed. Alter and Nagasawa), Oxford, Oxford University Press: pp. 179-214.
- Chalmers, David (2017), “The Combination Problem for Panpsychism”, *Panpsychism: Contemporary perspectives* (ed. Brüntrup and Jaskolla), Oxford, Oxford University Press, pp. 179-214.
- Coleman, Sam (2014), “The Real Combination Problem: Panpsychism, Microsubjects, and Emergence”, *Erkenntnis*, 79(1): pp. 19-44
- Dorsey, E. Jonathan (2011), “On the supposed limits of physicalist theories of mind”, *Philosophical Studies*, (155)2: pp. 207-225.
- Goff, Philip (2017), “Consciousness and Fundamental Reality”, Oxford, Oxford University Press.
- Goff, Philip (2019), “Galileo's Error: Foundations for a New Science of Consciousness”, New York, Pantheon books.
- Kepler, Joachim (2013), “A new perspective on the functioning of the brain and the mechanisms behind conscious processes”, *Frontiers in Psychology*, Lausanne, Frontiers Media: Vol. 4, Article 242.
- Ney, Alyssa (2015), “A Physicalist Critique of Russellian Monism”, *Consciousness in the Physical World: Perspectives on Russellian Monism* (ed. Alter and Nagasawa), Oxford, Oxford University Press: pp. 346–369.
- Shani, Itay and Joachim Kepler (2018), “Beyond Combination: How Cosmic Consciousness

Grounds Ordinary Experience”, *Journal of the American Philosophical Association*, Newark, American Philosophical Association: pp. 390-410.

Shani, Itay and Joachim Keppler (2020), “Cosmopsychism and Consciousness Research: A Fresh View on the Causal Mechanisms Underlying Phenomenal States”, *Frontiers in Psychology*, Lausanne, Frontiers Media: Vol. 11, Article 371.

Strawson, Galen ([2008] 2015), “Real Materialism”, *Consciousness in the Physical World: Perspectives on Russellian Monism* (ed. Alter and Nagasawa), Oxford, Oxford University Press: pp. 161-208.

Strawson, Galen ([2006] 2008), “Realistic Monism: Why Physicalism Entails Panpsychism”, *Real Materialism, and Other Essays*, Oxford, Oxford University Press: pp. 53–74.

Wilson, Jessica (2006), “On Characterizing the Physical”, *Philosophical Studies*, 131: pp. 61–99.