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DOES THE FUNDAMENTALITY OF CONSCIOUSNESS ENTAIL ITS UBIQUITY?

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Property dualists commonly consider consciousness to be a further fundamental feature of reality in addition to its physical properties. Fundamental physical properties are ubiquitous: *every* physical object and its intrinsic properties ontologically depends on fundamental particles and their fundamental intrinsic features. However, property dualists mostly restrict the range of mental properties to a set of systems that satisfy a particular physical description. This paper challenges the approach of restriction and argues that if mental properties are ontologically fundamental then they must be widespread as well.

Keywords: Consciousness – Property dualism – Panpsychism – Fundamentality – Philosophy of mind

I. Introduction. I understand consciousness to be the subjective dimension of experience and I take it to be a self-evident and unquestionable fact that consciousness exists, as is evidently warranted by everybody's everyday experience. Now, apart from those philosophers who deny the existence of consciousness in general, we can separate the reductive from the non-reductive theorists: whereas the former take consciousness to be a derivative phenomenon, the latter consider it to be a fundamental phenomenon. We can call the former generally reductive materialists, and the latter (in the majority of cases), property dualists.

Reductive materialists accept only *one* fundamental level: the physical level (whatever this level may be according to current physics). The fundamental features of the world are physical features. In contrast, mental properties are identified with certain functional roles that logically supervene on physical states. As such, to reductive materialists, mental features *really are* just physical features.[1]

Property dualists, on the other hand, accept *two* fundamental aspects of our world: physical properties *and* mental properties.[2] They generally reject the possibility of redu-

[1] For a paradigmatic outline of such a "Reduction of Mind" see David Lewis, "Reduction of Mind" in Guttenplan, S. (Ed.), *A Companion to Philosophy of Mind* (Oxford: Blackwell, 1994), pp. 412 – 430.

[2] The same holds true for the few current substance dualists. The case is different for idealists: in the customary manner, idealists turn the grounding relationship between the physical and the mental on its head so that physical properties are derivative from the mental. However, sadly, few idealists are to be

ction of the mind via identification with functional roles and further with physical states, arguing that the ontology of physics does not entail the existence of mental properties.[3] However, it is generally agreed that these two basic kinds of properties stand in a somewhat lawful relation to each other, even if these laws are distinct from the currently-known natural laws of physics and would expand our physical worldview. Within this scope of reasoning, fundamental properties are commonly conceived of as follows (I quote Chalmers as one of the paradigmatic property dualists):

Fundamental properties$_{(Def)}$: "Fundamental features cannot be explained in terms of more basic features, and fundamental laws cannot be explained in terms of more basic laws; they must simply be taken as primitive."[4]

Following this definition of fundamental features, then, if consciousness is such a feature, it is epistemologically quite crude. However, in that it is held that consciousness is also not entailed by physical facts it has to be taken as ontologically crude as well. The definition of fundamentality must therefore be expanded:

Fundamental* properties$_{(Def)}$: Fundamental features cannot be explained in terms of more basic features, and fundamental features do not ontologically depend on other, more fundamental features.

This is of course a substantial modification of the former definition, because when applied to mental properties it says that mental features are additionally ontologically crude, which means that they do not (necessarily) depend on anything else for their existence. Paradigmatic examples of such ontologically fundamental features are the essential physical properties of elementary particles thus far discovered by physics (e.g. mass, spin, and charge). David Lewis labels such fundamental properties "perfectly natural properties".[5] These properties are ontologically fundamental in that they *ground* other phenomena, but without themselves being grounded by anything else. Every physical object in our universe supervenes upon these properties (and some further fundamental physical laws). Thus, they must be ubiquitous. Obviously, if we take mental properties to be fundamental in this sense, it would automatically turn the property dualist into a panpsychist, the classical position that claims that consciousness (*psyché*) is everywhere (*pan*). Most

found in the current debates.

[3] To argue for the irreducibility of the mental to the physical property, dualists mostly use a priori strategies that unsheathe the independent variability of mental and physical properties. Independent variability thereby functions as a demonstration of their ontological distinction. A good synopsis of several arguments is offered by David Chalmers in *The Conscious Mind: In Search of a Fundamental Theory* (Oxford et al., 1996).

[4] Chalmers, *The Conscious Mind*, p. 126.

[5] Cf. David Lewis, *On the Plurality of Worlds* (Oxford: Blackwell, 1986), p. 61ff. and Lewis, "Reduction of Mind". Natural properties are defined in terms of duplication: (1) all real duplicates share all their perfectly natural properties, (2) corresponding parts have exactly the same perfectly natural properties and stand in perfectly natural relations and finally (3) such properties do not depend on anything else for their existence. (Cf. Lewis, *On the Plurality of Worlds*, p. 63 and Rae Langton & David Lewis, "Defining 'Intrinsic'" *Philosophy and Phenomenological Research*, Vol. 58 (2) (1998), pp. 333 – 345)

property dualists would do their utmost to avoid this and actively do so. The way in which the property dualist avoids panpsychism is by restricting the distribution of mental properties to a relatively small set of beings that satisfy – at least in the actual world – a particular physical description.

In the following sections I will try to provide reasons why I think that this restriction is inadequate and thus why the fundamentality of mental properties according to Fundamental* properties$_{(Def)}$ – given that, as I assume in this paper, the arguments of the property dualists for the fundamentality of consciousness are sound – entail their ubiquity as well.

The plan: In Section II, I begin with an analysis of what I call the 'subjective dimension of experience', which I take to be the core of consciousness. Furthermore, I argue on the basis of this analysis that consciousness is nothing we can think of in terms of degrees or incremental growth: either there is consciousness or there is not.[6] In Section III, I focus on the property dualist's strategy of restricting mental properties. I critically discuss several problems with this concept. Section IV finally provides reasons why the property dualist would be better off as a panpsychist.

II. The subjective dimension of experience. It is commonly assumed that consciousness is restricted to a certain number of things, mostly organisms that possess a certain structural complexity but which differ in their cognitive abilities according to this complexity. However, there is a core dimension of consciousness, a character that is equal to all kinds of consciousness, irrespective of cognitive ability, and which is in fact essential to its overall definition. I call this core *the subjective dimension* of consciousness. This dimension comprises two fundamental aspects (1) Minimal selfhood and (2) Phenomenology.

First, I will present working definitions of (1) and (2) in order to frame the argument:

Minimal self$_{(Def)}$: Every experiential episode is an episode lived through by (a subject) in order to be such an episode. Every experience is *for* (a subject) to be an experience at all.[7]

Phenomenology$_{(Def)}$: Every experiential episode is pervaded by some exclusive feeling as the specific and individual kind of way the content of that experiential episode is given *for* (a subject) of experience.

I place "a subject" in parentheses in both definitions to indicate the "minimal" character of selfhood. By "minimal character" I mean that a subject of experience is *not* ne-

[6] I have already applied this argument in my article "[reference 2011]" but did not elaborate on it in any deeper sense. There is an interesting article by Michael Antony, in which he investigated these issues more deeply. Cf. Michael V. Antony, "Vagueness and the Metaphysics of Consciousness" in *Philosophical Studies*, Vol. 128, No. 3 (2006): 515 – 538. See also the short article by Michael Tye, "Is Consciousness Vague or Arbitrary?" in: *Philosophy and Phenomenological Research*, Vol. 56, No. 3 (1996): 679 – 685.

[7] Cf. Gottlob Frege, "The Thought: A Logical Inquiry." *Mind*, New Series, Vol. 65 (No. 259) 1956, pp. 289 – 311; here: 299.

cessarily given to herself in an articulated way or by means of direct reflection. Thus, it is also not to be taken as the "product" of such articulation or reflection. Rather, the notion of minimal self denotes the simple fact that every experiential act is first-personally given. I further take both aspects, (1) and (2), to be essentially dependent on each other, by which I mean that neither of the two can be unhinged and analyzed without requiring and utilizing the other at the same time: without phenomenology there is no experience and without experience there is no subject of experience; and, vice versa, without a subject of experience there is no phenomenology because there is no one who is likely to undergo the experience, thus there is no experience either.

Now, in a second step, let me introduce an analogy between the concepts of (1) and (2) and the concept of "truth". This analogy will be essential to the assumption I put forward in the third step. One might wonder what "selfhood" and "phenomenology" could have in common with "truth". Neither of these concepts tolerates thinking of them in terms of "more or less". As Frege once emphasized: "Truth cannot tolerate a more or less", for "what is only half true is untrue."[8] Similarly, we cannot speak of "little", "less" or "more" givenness *of* experience concerning "minimal selfhood". Either experience is present to a subject or it is not. The same is true for "phenomenology": either there is something it is like to see a red ball or to smell the scent of lilac or there is not. To turn Frege's formulation upside down: even if I would smell only half of the blooming lilac I still would smell blooming lilac. Consequently, if both, (1) and (2), are not vague concepts – i.e. concepts that tolerate thinking of them in terms of degrees – then the same is consequently true of consciousness: either there is consciousness or there is not.[9]

Let us assume for the sake of argument the converse case that consciousness is a vague concept like the concept "heap". The predicate "is a heap" lacks extensional and/or intensional precision, hence there are borderline cases in which it is disputable whether the predicate applies or not. Take 100 grains of sand and call them a heap of sand. Now, remove one grain. What remains would still be a heap of sand. Now remove 50 grains of sand. What remains would still be called a heap. Now remove 93 grains of sand of the original heap. Could the remaining set of grains still be called a heap? This is a classic borderline case, a state between being a heap and not being a heap, where the decision depends on a rather arbitrary definition of the predicate "is a heap". Of course, if we were to remove 99% of the original heap, the predicate would definitively not apply. Let us now take a look at the concept of consciousness: is it possible that "consciousness" – like "heap" – lacks extensional and/or intensional precision? The answer is definitively no. The reason is that there are no borderline cases imaginable where a thing would be in a fuzzy state between conscious and unconscious and hence where the application of the concept would depend on a rather arbitrary definition. Regardless of whether 3%, 50% or 97% of consciousness[10] were removed, there still would be consciousness. Even if 99.9%

[8] Frege, "The Thought", p. 291.
[9] Cf. Antony, "Vagueness and the Metaphysics of Consciousness", p. 515f.
[10] Assuming there is any intelligible sense to talk of "xy% of consciousness" at all.

were removed, there would still be phenomenology, because even a very faint feeling is a feeling. One might object that we are perfectly acquainted with a paradigmatic example of such a transitional state of consciousness, a state between conscious and not conscious, namely the states before waking up and before falling asleep. But the same argument is applicable in this case: even if there is a state before consciousness switches to unconsciousness, this state must still be called a state of consciousness, as there is at least some minimal phenomenology. Only in the case where there is *no* phenomenology can we say that there is *no* consciousness either.

Summarizing what has been said in Sections I and II, the following premises can be formulated:

P1: Consciousness is ontologically fundamental. (Section I)

P2: Physical properties are ontologically fundamental. (Section I)

P3: Consciousness is not vague. (Section II)

In order to prevent any misunderstanding of the argument in the remaining sections, it is important to note the following regarding P1-P3: Of course P1 could be challenged (which materialists commonly do); or P2 could be challenged (which idealists commonly do); or P3 could be challenged; or certain combinations of them could be challenged. However, I will discuss none of these possibilities, but rather focus on the possible theoretical outcomes of P1-P3. Hence, let me now come to the third and final step, where I will consider the two strategies of taking consciousness seriously with respect to the listed premises.

The first strategy requires the introduction of a further premise:

P4: Psychophysical laws (call them L) correlate mental and physical properties.[11]

Thus: If P1, P2 and P3, then certain systems satisfying L are conscious. Due to P3, L must be quite precise in order to make the sudden appearance of consciousness at a certain level – a level that satisfies L – intelligible. (I will provide reasons for this assumption in Section III.) Therefore, this strategy has the obligation of doing two things: (i) giving an idea of L; and (ii) vindicating consciousness as an emergent phenomenon.

The second strategy is simpler: If P1, P2 and P3, then consciousness is ubiquitous (hence: panpsychism). The obligation of the second strategy then lies in (iii) refuting the first strategy in order to make the conditional of the second strategy acceptable; (iv) giving an idea of what it means to take consciousness as being a universal property.

In the following Section III, I will attempt something akin to (iii) by pointing out problems with (i) and (ii).

III. Problems with property dualism. Property dualists hold that only a certain number of things are able to instantiate consciousness, namely things that have a specific physical (respectively functional) architecture, on the basis of which consciousness can

[11] These laws have to be psychophysical laws with respect to P1 and P2 and they would furthermore be fundamental laws, in that they correlate fundamental properties.

arise.[12] Restricting the range of consciousness to only a certain class (or classes) of individuals is essential to property dualism, since otherwise, or so I argue, it would turn into a variety of panpsychism (what property dualists commonly tend to avoid). Thus, consciousness is taken to be an emergent property of certain, otherwise physical, systems.[13] Now, according to what has been outlined in Section II, the property dualists' situation can be sketched as follows: According to P3, the concept of consciousness is extensionally and intensionally precise.[14] But the property dualist holds that only certain, and not all, physical systems instantiate consciousness. Thus, she is urged to hold that the conditions of range are precise[15] in the same way as the instantiated properties are.[16] According to P4, certain psychophysical laws (L) govern the instantiation of consciousness, and therefore also define the conditions of range. Thus, L must be precise in that they must guarantee that things satisfying L instantiate consciousness, whereas things which fail to satisfy L do not. Hence the following specification of L can be formulated:

Specification$_L$: Propositions of L must be precise in both predicate and range.

In the remaining part of this section I will argue that the property dualist's strategy of restricting the range of consciousness leads to odd consequences with respect to P1-P3, making the assumption of strategy two – panpsychism – more reasonable. First I will bring forward a case where Specification$_L$ leads to implausible consequences concerning the property dualists' claim that L should be considered as *fundamental* laws. Second, to avoid the consequences relating to Specification$_L$ I will consider the case where the property dualist abandons Specification$_L$. However, as I will show, this also leads to inconsistencies with property dualism.

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[12] E.g. Chalmers, *The Conscious Mind*; William Hasker, *The Emergent Self* (Ithaca, NY: Cornell University Press 1999).

[13] Consciousness is the paradigmatic example of a "strongly emergent" phenomenon due to its principal non-deducibility from physical facts. Cf. David Chalmers, "Strong and Weak Emergence" in Philip Clayton, & Paul Davies (Eds.), *The Re-emergence of Emergence* (Oxford University Press, 2006), pp. 244 – 256, here 244. In contrast to "strong emergence", "weak emergence" could be defined as follows: "a high-level phenomenon is *weakly* emergent with respect to a low-level domain when the high-level phenomenon arises from the low-level domain, but truths concerning that phenomenon are *unexpected* given the principles governing the low-level domain." (ibid.) Interestingly, the concepts of "supervenience" and "irreducibility" are, according to Jaegwon Kim, "Emergence: Core ideas and issues" *Synthese* 151 (2006), pp. 547 – 559; here: 548, "necessary components of any concept of emergence". According to this definition there are no "weakly emergent" phenomena in the sense of the definition given by Chalmers, who further suggests that there exists just one "strongly emergent" phenomenon: consciousness. Consequently there would be just one emergent phenomenon, which seems absurd. This discrepancy between Chalmers' and Kim's definition demonstrates – in my opinion – that the concept of emergence is used quite ambiguously in these discussions.

[14] This definition of predicate-precision is reminiscent of Mario Bunge's, "Kinds and Criteria of Scientific Law" *Philosophy of Science* 28 (3) 1961, pp. 260 – 281; here: 264, definition of predicate-imprecision as predicates, "which lack extensional and/or intensional precision".

[15] Bunge, "Kinds and Criteria of Scientific Law", p. 264, defines range-precision as "precise denotation", hence imprecise range "lacks precise denotation."

[16] Cf. Antony, "Vagueness and the Metaphysics of Consciousness", p. 520.

Let us start with the first case. Imagine a physical system that develops from zero complexity to exactly the degree of complexity at which consciousness arises.[17] Suppose this development takes only little time – let us say, one minute. If the psychophysical laws (L) that govern the emergence of consciousness must be precise in the same way the emergent phenomenon is, then, by achieving this certain degree of complexity after exactly one minute, the system abruptly starts to experience according to L. Now, due to the requirement of precision, the physical state defined by L as the state at which a system starts to experience must be precise in a way that the slightest decrease of complexity of the system's physical state, e.g. substitution of a single isolated particle (for example a neutrino), makes it switch abruptly from conscious to not-conscious. Hence, whether the system is conscious or not depends on the alteration of a single elementary particle, which makes L highly arbitrary. But L are said to be *fundamental* laws in that they govern the relationship of *fundamental* features, which runs contrary to the outlined arbitrariness: The arbitrariness of L would likewise affect consciousness and turn it into an arbitrary feature of the world, which is also not compatible with the fundamentality claim of property dualism.[18]

However, this arbitrariness does not yet make L *logically* impossible. But it definitely implies rather "bizarre" consequences. For example, let us take as given that there is something like an evolutionary continuum as well as a continuum between the different species in the actual world. Now let us assume there exists or has existed one species with a brain similar to the physical system described above (a system that *exactly* meets the demands of L): All individuals of this species are conscious by their normal constitution. Yet a simple "accident" that damages 0.00000001% of one individual's brain, for example head trauma, would turn it into a zombie. Given that "accidents" where such a minimal portion of the brain is damaged occur rather often, this would lead to the conclusion that this species would consist of conscious organisms but also of a rather large number of zombies. The existence of such a species would of course be a "bizarre" fact, and we know of no such examples in the actual world. Consequently, the property dualist would be better off by giving up Specification_{L} in order to make L less arbitrary and to avoid such bizarre consequences. Yet this is something she cannot really do with regard to P3, the "sharpness" of consciousness.

[17] I assume for the sake of argument that such a physical system is quite similar to a brain, because in the actual world it is mostly brains that give rise to consciousness.

[18] See here also William Seager's critical comment on David Chalmers' "principle of organizational invariance", which can be interpreted as a principle to restrict the range of mental properties: "It is disturbing that consciousness can be an absolutely fundamental feature of nature while being dependent upon particular systems satisfying purely functional descriptions […]. No other fundamental feature of the world has this character, or a character even remotely like it. It is rather as if one declared that 'being a telephone' was a fundamental feature of the world, generated by a variety of physical systems agreeing only in fulfilling the relevant, highly abstract, behaviourally defined functional descriptions." William Seager, "Consciousness, Information and Panpsychism" in: *Journal of Consciousness Studies* 2 (3) (1995), pp. 272 – 288.

However, for the sake of argument, let us imagine the case that occurs when the property dualist gives up Specification_L in order to avoid the above consequence. Giving up Specification_L means likewise giving up the criterion of range-precision. In this case, the psychophysical laws (L) define only a fuzzy segment in the development of the system at which it randomly starts to experience the world. With respect to the non-vagueness of consciousness (P3), the fuzzy segment contains a range of different states with different physical (respectively functional) complexity at which consciousness is sometimes instantiated and sometimes not. To put it more formally: Call a state of the system at which consciousness is instantiated S. Then consciousness could arise at S as well as minimally altered S* as well as more altered S**. But due to the property dualists' abandonment of Specification_L it is a purely random matter whether the system experiences the world or not, because there are no precise criteria that account for this fact. This would turn property dualism into a non-theory in that it first claims that consciousness is fundamental, but allows pure randomness to decide which systems are conscious and which are not. Moreover, if consciousness would hold at S as well as minimally altered S*, then there is no reason why it could not also hold at maximally altered S***, where S*** describes a state of severely reduced physical complexity, such as in an atom. Hence, by giving up Specification_L the property dualist would be naturally driven to panpsychism.

In order to avoid the mentioned problems with L, I conclude that the property dualist would be better off taking the way of the second-mentioned strategy if she wishes to hold on to P1-P3 – Hence, I advise her to become a panpsychist.

IV. The panpsychist is better off. In this section I will offer an explanation of why the property dualist would be better off being a panpsychist. In Section II, I said that the panpsychist is obliged to refute property dualism in order to make her account coherent. I take the problems of property dualism listed in Section III to be satisfactory for even considering panpsychism as a viable doctrine.

If we assume, as panpsychists do, that mental properties are on a par with physical properties, then it seems reasonable to consider them as having similar characteristics. Thus the panpsychist assumes, besides their paradigmatic ubiquity, that fundamental mental properties, like the physical, are intrinsic properties and that they are ontologically constitutive for higher-level mental properties. This allows the panpsychist to sidestep the necessity of postulating arbitrarily defined leaps within the evolutionary continuum – like the property dualist is forced to if she wants to avoid panpsychism – and to hold on to the idea of consciousness as a truly fundamental feature.

Now, if we take a look at fundamental physical properties (i.e. Lewisian "perfectly natural properties"), it seems to be a common feature of these that they *compose* when they aggregate (which happens when complexity of a physical system increases). Therefore, they are called "compositional properties".[19] For example, if a system has the "high-

[19] Cf. William Seager, "Concessionary Dualism and Physicalism" in: *Royal Institute of Philosophy Supplement* 85 (67) (2010), pp. 217 – 237.

level" property of having a particular mass, then this mass is the result of a composition of all the system's components' "low-level" properties having a particular mass. Another example would be charge: all charged things gain their particular charge by totalling the particular charges of their basic constituents. This relationship between higher and lower-level properties is what William Seager terms "Dependence Type 4": A property of a thing "holds in virtue of the constituents having exactly the same [intrinsic, MB] property."[20]

If we now turn to consciousness, which we have introduced as a fundamental property (on a par with fundamental physical properties), it seems reasonable to consider it as a compositional property as well. This means for the panpsychist, that she has to maintain that higher-level forms of consciousness, for example the consciousness of a dog, a cat, or me, are compositions of lower-level mental properties, for example the mental properties of fundamental particles.[21] Actually, this is what Seager points out: panpsychism is "best understood as a form of Type 4 dependence."[22] This kind of dependence then demands a principle – something similar to the psychophysical laws (L) discussed in the previous section – that governs the relationship between the low-level mental properties of, for example, fundamental particles, and the higher-level properties of more complex systems like organisms. With respect to the compositional character of the fundamental mental properties, this principle must be a "principle of composition" (call it PC). Furthermore, to avoid the problems mentioned for L, PC must be universal – something along these lines:

PC: Every time fundamental mental properties aggregate, a higher-level mental whole emerges.

However, a bitter consequence of the universal definition of PC seems to be that it implies that *every* composed thing is a subject of experience: an electron, a molecule, a virus, an ant, a dog, you and me. This counterintuitive implication is of course comparable to the bizarre consequences of L discussed above and it is indeed the basis of the widely-held common-sense objection to panpsychism: It is – simply put – hard to make

[20] Seager, "Concessionary Dualism and Physicalism", p. 231.

[21] Of course, – among panpsychists – there is the widely accepted "composition problem", which is the problem of making sense of macroscopic subjects of experience, like you and me, in terms of simple aggregations of more fundamental subjects of experience. Contrary to what I have written in previous articles on this topic, I currently do not think this problem is unsolvable in principle and I will therefore not consider it here. However, e.g. William Seager found a strategy, which he introduced as the principle of "combinatorial infusion", to side-step the "composition problem": When fundamental constituents compose, they "infuse" their intrinsic mental properties into the emerging mental whole that absorbs and thereby effaces them. The whole is entirely determined by the intrinsic properties of its constituents even tough it is not just the mere sum of tiny selves. The emerging mental whole is, due to the factor of effacement of its parts, a "large simple". Seager even provides an already existing model for "combinatorial infusion" in the physical world – besides examples such as "entanglement" in quantum mechanics – namely, "the classical black hole". Cf. William Seager, "Panpsychism, Aggregation and Combinatorial Infusion" in: *Mind & Matter* Vol. 8(2) (2010), pp. 167 – 184.

[22] Seager, Concessionary Dualism and Physicalism, p. 232 Fn.

sense of electrons or molecules that experience.

To mitigate this counterintuitive consequence, a specification of PC is needed that better distinguishes between (let us call them) "lower-level subjects of experience" and "higher-level subjects of experience". Furthermore, this specification has to be universal to avoid the problems of L outlined in Section III. However, in my opinion, it could be formulated in a way that does not attack universality, but rather points to features of consciousness that may increase with the overall increasing complexity of a physical system – hence, features that allow thinking of them in terms of degrees. Something like:

Specification$_{PC}$: Every time fundamental mental properties aggregate, the cognitive condition of the subject of experience is relative to the physical complexity of that aggregate.

So, with Specification$_{PC}$ I introduce a distinction within the mental realm: The distinction between the *cognitive features* of a system and the *experiential features* of a system. This distinction is essential to the case for panpsychism: Because even if *consciousness* does not allow itself to be thought of in terms of degrees (P3), it is possible to think of *cognitive* features in terms of degrees. Hence, in the following I argue that an electron, a molecule, a virus, an ant, a dog, you and I are *all* subjects of experience, but that these subjects differ greatly in their cognitive abilities. The goal here is to mitigate the common-sense objection in order to make more acceptable the idea that experience is around us everywhere.

When I speak of cognitive abilities I am thinking of features like memory, anticipation of future events, etc. – features which usually enable human beings (and perhaps also other animals, like dogs, cats, rats and mice) to plan, learn, and hence, generally speaking, to *act*. Now, according to Specification$_{PC}$, the quantity and quality of cognitive skills of a subject of experience increase along with the complexity of the composition of mental properties and the complexity of the physical system. This would mean that, for example, the difference between a higher-order subject of experience like you and me and a lower-level subject of experience, such as an electron, lies in the difference between cognitive skills: Whereas I experience the world in a certain way and am furthermore able to anticipate the future and to remember events in the past, which enables me to plan, learn, and hence, generally speaking, to act in the world, the electron has no such (or just extremely limited) cognitive skills and is therefore not able to rationally behave like I do, but it nevertheless experiences the world in a *certain* (even presumably very elementary) way.

Specification$_{PC}$ indeed cannot avoid the consequence of PC that every composed physical object is a subject of experience, but it can give an idea of how we can think of the differences between higher-level and lower-level subjects of experience in a more intelligible sense, thereby making the above-mentioned consequence less bizarre. However, another strategy of dealing with this consequence has recently been put forward by William Seager.[23] It is the strategy of pointing to yet unknown, but rather simple, features of consciousness itself that become relevant in the compositional process: Not every time

[23] Seager, "Panpsychism, Aggregation and Combinatorial Infusion".

mental properties compose do they build a subject of experience, but when they compose in a certain way where these features become relevant, then a higher-level subject of experience arises. Unfortunately, Seager does not investigate this any further, but to elucidate it in some way he provides a simple analogy with another fundamental feature: Just because "charge" is a fundamental and ubiquitous physical property, it does not necessarily follow that every composed physical object is charged, "because positive and negative charge can cancel each other out."[24] However, the definition of the yet-undefined mental feature that is relevant to the emergence of higher-order subjects of experience calls for further investigation, which is beyond the scope of this article.

V. Conclusion. In conclusion, this article has shown that panpsychism and PC – in contrast to property dualism and L – can more satisfactorily handle bizarre consequences, remain true to the idea of an evolutionary continuum, and seem to form a more feasible strategy of coping with P1-P3. Thus, the paper suggests that the property dualist would be better served by adopting panpsychism.[25]

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[24] ibid., p. 175.

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