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Crazier hypotheses: Panpsychism

Commentary on [Segundo-Ortin & Calvo](#) on *Plant Sentience*

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Abstract: Segundo-Ortin & Calvo (S&C) invite readers to consider seriously the hypothesis that plants have phenomenal consciousness or sentience. Their case is based on behavioral evidence to support their hypothesis. While the hypothesis seems crazy to many, there is a crazier hypothesis – panpsychism – according to which everything is sentient. We discuss panpsychism to raise a number of philosophical questions about S&C’s hypothesis.

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In their target article, [Segundo-Ortin and Calvo](#) (2023) (S&C) invite readers to consider seriously the possibility that plants, like animals (human and nonhuman) are sentient. S&C review considerable behavioral evidence they consider indicative of sentience in plants (and other organisms inferred to be sentient). The behaviors include communication, decision-making, and learning. This evidence is fascinating and certainly adds to our understanding of plants. Exactly what it *means* regarding sentience, however, raises conceptual and logical questions:

Are all these behaviors equally significant as indicators of sentience? If not, which are more significant and why? Whatever S&C may answer, many readers are likely to regard the idea of plant sentience as crazy. It certainly sounds crazier than the hypothesis of fish sentience (Woodruff 2017), but perhaps the conjecture is worth pursuing (Burgos 2017).

S&C are very cautious, which we appreciate. There does, however, exist a still crazier hypothesis, *panpsychism*, according to which, *everything* is sentient, not just animals and plants, but also viruses, bacteria, single cells, even inorganic objects like tables, chairs, hats, rocks, computers, and doorknobs. Subatomic particles like electrons, are sentient too. S&C note that “[t]here is no *principled* reason to deny that radically different neural structures could give rise to felt states” (p. 2). There is likewise no principled reason to deny that radically different entities

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such as electrons could be sentient too -- although there is no principled reason to accept it either.

The panpsychism hypothesis is worth pursuing if made sufficiently intelligible. Goff (2017) has given what may be the most intelligible formulation thus far with what he calls “constitutive panpsychism”, raising the issue of *mental causation*. According to Goff, electron sentience is vastly simpler than plant sentience, which in turn is vastly simpler than rat sentience, etc. Simpler sentient entities *combine* to form more complex sentient entities. What would be S&C’s stance on Goff’s panpsychism? Do S&C assume that sentience causes certain behaviors? If yes, how does this work?

Goff suggests that science is not solely, or even mainly, about evidence, but also and equally importantly, about intelligibility (conceptual clarity and precision, parsimony, unifying explanatory power). S&C’s hypothesis seems more strongly evidence-based than anything else. S&C would be likely to ask whether electrons display the behaviors they take as indicators of sentience. There is as yet no evidence for an affirmative answer, although there is some evidence of Pavlovian conditioning (which is one indicator of sentience for S&C, p. 10) in certain inorganic systems (e.g., Broer, 2020; Zeng et al., 2020; Zhang et al., 2020).

Does a negative answer mean that electrons are insentient? Not necessarily. S&C appeal to “reasoning by analogy,” inferring ‘unobservable’ similarities between inner processes from ‘observable’ behavioral similarities. But the observable-unobservable distinction is too unintelligible to be useful (Burgos, 2021). Another approach would be *inference to the best explanation* (Lipton, 2004). On this form of inference, sentience could be considered as the most understandable explanation of certain behaviors. A third solution might be to view other minds as *theoretical entities*, as anticipated by Premack & Woodruff’s (1978) highly influential paper. All these alternatives, of course, suffer from important difficulties; so we cannot reject S&C’s appeal to analogy. But it’s worth keeping options open.

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