

# Review of: "Growing Confidence and Remaining Uncertainty About Animal Consciousness"

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**Potential competing interests:** No potential competing interests to declare.

The article by Irwin offers a comprehensive overview of the field of animal consciousness. It is highly readable and synthesizes current approaches and ideas in the field of consciousness studies. After reading the other reviews, I will focus on the three remaining uncertainties: the neural correlates of consciousness, the gap between mechanism and phenomenology, and the monitoring mechanism.

While the first issue is challenging, the multitude of models at present (many more than presented in the article) suggests we are making strides in understanding, or at least properly framing, the issue. Similarly, the agency of consciousness may be better formulated and understood once we properly understand the neural correlates of consciousness. Of the three, the phenomenological gap seems most problematic. I wish more of the paper was devoted to the issue.

I am not an expert in the topic at hand, though I have read and thought about consciousness for several decades. As a neuroscience researcher, I also adhere to the materialist approach. The author himself espouses an eliminative materialist position, though he clearly seems open to non-materialist accounts. For example, he asks whether 'consciousness is reducible to neural processes or encompasses a more expansive phenomenological experience'. He also concedes that 'a full account of animal consciousness entails more than the neural processes that give rise to it'.

Perhaps it is our conception of the subjective conscious experience that needs refining. Irwin points to Edelman (2003), who argues that a scientific theory cannot presume to replicate the experience that it describes or explains; a theory to account for a hurricane is not a hurricane. True enough. But a hurricane can be empirically studied to ensure the model accurately captures the event. With sufficient time and investment, the model could presumably minutely describe both the formation and movement of a given hurricane.

The same is not true for a subjective experience, which is qualitatively unique. In this case, there is no way to confirm that a specific description of brain activity corresponds to a specific conscious experience. Even if, as Irwin suggests, 'fragments of experience are coextensive with specific patterns of neuronal activity', there is no guarantee the same neural output (at least at the macro level) corresponds to the same subjective experience in different individuals.

In other words, even if we ultimately do correlate different neural patterns to unique conscious states, it will likely be probabilistic in nature. And such an account will (in people) still require post-hoc confirmation of the realized phenomenological experience from the subjects themselves. Perhaps, then, it is not possible to 'bridge the gap,' and we must acknowledge that first-person subjective experiences cannot be described via an outside third-person perspective.

We're not there yet. I am not an idealist and do think consciousness will ultimately be explained via a materialist/physicalist account. But, to my thinking, the 'hard problem' enunciated by Chalmers seems as problematic today as it was back in 1995.