Response to "Should IANDS Endorse a Post-Physicalist Worldview?": Balancing Perspectives: The Significance of Empirical Evidence in Scientific Inquiry

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ABSTRACT: In this response, we explain why we believe it is premature for the International Association for Near-Death Studies (IANDS) to endorse a post-physicalist worldview.

KEYWORDS: worldview, paradigm shift, post-physicalism, post-materialism

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We are grateful to Janice Holden, current president of the International Association for Near-Death Studies (IANDS), for the invitation to reply to her editorial (2023). We recognize Holden's commitment and ambition, which has enabled researchers and philosophers in the field of near-death studies to engage in an interesting conversation through this series of responses. However, we hereby respectfully express our disagreement with endorsing a post-

physicalist worldview as the official position of IANDS at this time, as we consider such a stance premature.

Our position is rooted in the observation of a growing body of empirical evidence from various fields of (neuroscience-based) physicalism that increasingly support the connection between (neuro)physiological activity and consciousness. This body of research, for instance, has begun to shed light on the potential mechanisms behind the emergence of near-death experiences (NDEs), through the identification of relevant cognitive and (neuro)physiological risk factors (e.g., Klemenc-Ketis et al., 2010; Raffaelli et al., 2023; Rousseau et al., 2023) and the induction of similar subjective experiences in laboratory (e.g., Martial et al., 2024a; Timmermann et al., 2019) and clinical (e.g., Arzy et al., 2006; De Ridder et al., 2007) settings notably allowing for real-time study of potential brain changes—while acknowledging the inherent limitations of such studies. Furthermore, theoretical frameworks have been recently developed to comprehend the phenomenon (e.g., Martial et al., 2020), informed by recent advances in consciousness research. That said, we also acknowledge that many mysteries and unanswered questions remain~~,~~ and that we are far from fully understanding how our human complex consciousness emerges from matter. In our view, it is crucial to emphasize that science, as we both acknowledge, is a dynamic process of continuous inquiry and hypothesis testing. At the scale of humanity, science is a relatively young discipline, and science is an ever-evolving field. Phenomena that currently evade our ability to measure or comprehend—particularly those related to psi or paranormal experiences—may become explainable within a physicalist framework with future advancements in scientific tools. Just because these phenomena currently elude our measurement “physicalist techniques” does not mean they will remain beyond our ability to quantify in the years to come. Absence of proof is not proof of absence.

We are perplexed by Holden's decision to endorse a worldview that is critically lacking empirical support. We consider her use of anecdotal accounts—at least, partly—to justify the endorsement of a post-physicalist perspective to be unfortunate and to raise concerns regarding the methodological rigor of her position, as this approach is inherently less parsimonious than explanations grounded in current neuroscience. Nowadays, it remains uncontested that the "numerous cases of veridical perceptions associated with NDEs" (Holden, 2023, p. ??) that Holden cited as "another important source of support" have not been rigorously verified by experimental evidence. Indeed, existing research has not objectively documented these reported perceptions specifically through rigorous scientific methods capable of verifying claims using experimental objective measures, such as real-time audio-video recordings to empirically confirm the authenticity of the events, and published in peer-reviewed scientific journals. For instance, recent criticisms of Parnia et al.'s (2023) study highlight these methodological shortcomings (Martial et al., 2024b). As it stands, the available studies do not rule out the possibility that these memories may stem from individual expectations, prior knowledge, and/or imaginative constructs. Cognitive psychology has long demonstrated various biases inherent in human perception, which can affect both the interpretation and recollection of events. This is especially pertinent in life-threatening situations, which naturally elicit strong emotions and can then significantly impact the encoding of memories. Furthermore, we find the supporting references cited by the author surprising, as none of the works referenced to substantiate "robust empirical support for the existence of psi experiences, where individuals possess knowledge beyond sensory or rational explanation" (Holden, 2023, p. ??)—including, for example, works by Kelly et al. (2006), Kelly (2015), Kelly & Marshall (2021), and van Lommel (2010)— actually involve measurements of physical components or followed the scientific method, as evidenced by findings published in peer-reviewed scientific journals.

It is important to clarify that we are not asserting here that objective verification of these experiences is impossible; evidence of this point is that we are currently testing it ourselves at our hospital (ClinicalTrials.gov registration: NCT06362525). Rather, we emphasize that such verification has yet to be empirically established according to the tenets of modern scientific methodology. In our view, the occurrence of perceptions based on external stimuli or the emergence of vivid mental experiences in critical conditions with impaired brain physiology are, indeed, possible, representing instances of episodes of connected and disconnected consciousness (Martial et al., 2020; Sanders et al., 2012), respectively. Recent empirical literature rooted in a physicalism view has also shown, for instance, that such episodes can occur in situations previously regarded as 'fully unconscious,' such as during general anesthesia (e.g., Gaskell et al., 2017)—which raises the question of why such episodes could not also occur in life-threatening situations. The reason the physicalist perspective is the most widely accepted today and considered common knowledge is that empirical evidence to date converges more toward supporting these theories. Therefore, rejecting this common knowledge that come from scientific evidence, cannot be equated to reflective thinking, as Holden (2023) suggested analogously.

It is important to emphasize that, as researchers, we are inherently dependent on the tools available to us at any given time, which may, of course, be subject to limitations. A quintessential example is the use of electroencephalography (EEG) in critical conditions associated with NDEs, such as during cardiac arrest. This practice has sometimes led to the erroneous conclusion that "measurable brain activity was absent" (Holden, 2023, p. ??). EEG records electrical activity from the brain's surface; however, its limitations in depth and spatial resolution are well known. Additionally, the empirical literature increasingly supports the view that activity in key temporo-parieto-occipital (Koch et al., 2016) and/or prefrontal (Mashour et al., 2020) regions are required for consciousness to arise, rather than requiring

the involvement of the entire brain (see Seth & Bayne, 2022, for a recent review). Importantly, it is also worth mentioning that this dependency on available tools and their inherent constraints applies equally to the investigation of the possibility that consciousness cannot be fully explained by physical processes alone, whereby it is possible that current technology may be inadequate to fully test such hypotheses. Alternative perspectives propose that the brain may function more as a receiver of consciousness, akin to how a radio tunes into external signals, rather than as the direct source.

As non-IANDS members, we humbly and respectfully contend that the association does not need to adopt a definitive position to effectively educate and support individuals who have experienced near-death, mystical, or psi-related experiences. Conversely, and contrary to what the Holden (2023) suggested, we believe that espousing a polarized viewpoint risks alienating certain individuals, and encouraging a confirmation bias—that is, a tendency to seek out, interpret, and remember information that reinforces their existing beliefs—within its community. It should be noted that, concerning the survey referenced in her letter, despite fulfilling the power requirements, caution is advised in interpreting the representativeness of the sample, as a very low response rate—4.7% of IANDS members completed at least part of the survey—may introduce response bias, potentially limiting the generalizability of the findings to the wider community. It may have been more appropriate to ask respondents directly whether they support post-physicalism as the organization's official stance—with three response possibility: “yes”, “no”, or “undecided”—instead of inquiring about their personal views on the mind-brain relationship, as their opinions may differ from what they would like IANDS to adopt. Moreover, such a stance may influence healthcare professionals' willingness to engage with NDE-related training, contingent upon their personal beliefs. Although Holden (2023) advocated for IANDS to officially recognize that consciousness cannot be entirely explained by physical mechanisms—and emphasized the importance of

maintaining openness to further evidence, we argue that adopting a strongly post-physicalist position may hinder the organization's objective of fostering dialogue between competing theories. Finally, we would be interested to know which elements of physicalism Holden (2023) endorsed, so that "a post-physicalist worldview seems . . . to be essential: one that both includes and transcends physicalism" (p. ??).

For these reasons, we contend that embracing a post-physicalist worldview may be premature. However, we acknowledge Holden's enthusiasm dedicated to enhancing our understanding of NDEs and related phenomena. One certainty is that we all strive for a deeper comprehension of consciousness, particularly regarding yet unexplained phenomena. We advocate for the inclusion of diverse perspectives and research, but we stress the necessity of scientific rigor and openness in these efforts.

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