

Peer Review

Review of: "The Interaction Problem and Mental Causation: A Quantum Field Theoretical Perspective"

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In this article, Masi tackles the longstanding philosophical “interaction problem” — how non-physical mind-states can causally affect physical brain-states — by appealing to the formal apparatus of quantum field theory (QFT). He begins by clarifying some key conceptual confusions (for example, what counts as “physical” vs “unphysical”) and then argues that modern physics itself exhibits instances of “immaterial” or non-massive entities (such as gauge bosons in QFT) influencing material structures, thereby weakening the standard dualist objection from causal exclusion. He proceeds to propose a notion of “causality without interaction” rooted in the stochastic, non-deterministic regime of quantum mechanics, suggesting that a mental → physical influence need not transfer energy or force in the classical sense and so might avoid violation of conservation laws. The strength of the paper lies in its ambitious bridging of metaphysics and quantum physics, and in its careful attention to terminological precision.

However, the paper also raises significant questions. While the proposed framework is intriguing, it remains speculative: the mapping between mental states and quantum-field processes is not worked out in a way that offers clear empirical predictions or testable models. Moreover, although invoking quantum stochasticity provides a way around strict conservation objections, it shifts the burden onto how mental causation is grounded — i.e., why and how a “mental choice” should correspond to a particular quantum collapse or ordering of events. Critics may also argue that appealing to QFT risks moving the problem rather than solving it: the mind-body gap still appears in the translation from mental content to field-operator dynamics. Overall, the work is a stimulating contribution that opens fresh avenues, but it calls for further mathematical/modeling fleshing-out and empirical anchoring to move from philosophical suggestion to scientific theory.

Declarations

Potential competing interests: No potential competing interests to declare.