"CONSERVATION OF CONSCIOUS EXPERIENCE: A QUANTUM INFORMATIONAL APPROACH"

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The observation of the natural world generates unique conscious experiences in living beings, characterized by their inherently personal, subjective, and first-person nature. These experiences, often referred to as qualia, are fundamentally inaccessible from an objective or third-person perspective, as their qualitative aspects cannot be adequately captured or transmitted through classical bits of information. Emerging research suggests that such experiences may require a framework beyond classical physical description, possibly grounded in quantum information, which, like conscious experience, remains intrinsically unobservable and incommunicable. This limitation arises from fundamental principles of quantum information theory, particularly the No-Cloning Theorem.

This work explores the possibility that conscious experiences may align with quantum principles, particularly the no-hiding theorem, which states that quantum information cannot be destroyed or lost but remain redistributed within a system and environment. If conscious experience operates on quantum information principles, then its apparent loss, whether through natural processes like synaptic pruning or through external factors like traumatic brain injury do not imply complete loss but conservation of conscious experience as memories. Furthermore, we explore the possibility that conscious experience arises from the interaction between quantum information and agency where quantum information is the information content of the conscious experience and agency represents the first-person perspective and self-referential subject (aware of itself).