

Leonardo's Holistic Insight on Quantum Inseparability

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In the history of science, and of natural philosophy, action at a distance has been among the most controversial question, and the scientific community has repeatedly wavered between its acceptance and its rejection. Modern Galilean and Cartesian science were initially founded on its complete abandon, later reintroduced with Newton's principle of gravitation, refused again with the advent of Maxwell's electromagnetic theory, and finally reintroduced in a stronger form with quantum nonlocality. In this regard it is possible to propose to dwell on Leonardo's holistic conception of nature, rejected by the mechanistic and reductionist view of Bacon, Galileo and Descartes, which stays at the basis of the ontology of classical physics. It would be possible to affirm that Leonardo's perspective can be seen as a Renaissance foreshadowing of the relational worldview of quantum nonlocality. Both Leonardo and the entanglement suggest that to describe and understand quantum reality, one must look beyond isolated parts and embrace the idea of an unbroken wholeness of interconnected elements.

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