

*Quantum Hylomorphism vs. Microphysicalism: Aristotelian Pluralism as an Interpretation of Quantum Theory and Mesoscopic Emergence*

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Defenders of physicalism often point to the ontological reduction of chemistry to quantum physics as a paradigm for the reduction of the rest of reality (including the biological, psychological, and social) to a microphysical foundation. This argument is based, however, on a profound misreading of the philosophical significance of the quantum revolution. A hylomorphic interpretation of quantum theory, in which parts and wholes stand in a mutually determining relationship, fits better both the empirical facts and the actual practice of scientists. The “emergence” (or, as I prefer, “ontological escalation”) of thermodynamics and chemistry from microphysics provides a useful model for thinking about the hierarchical dynamic structure of nature.