IN·NOMINE·PATRIS

Radboud University Nijmegen

- **Composition principle**: How do parts of the system relate to wholes?

"*A physical theory is holistic if and only if it is **impossible in principle**, for a set of local agents each having access to a single subsystem only, to infer the global properties of a system as assigned in the theory (which can be inferred by global measurements), by using the resource basis available to the agents." (Epistemological criterion - Seevinck, 2004).*

*"It was shown that all theories on a state space using **a Cartesian product** to combine sub- system state spaces, **such as classical physics and Bohmian mechanics, <u>are not holistic</u>** in both the supervenience and epistemological approach. The reason for this is that the Boolean algebra structure of the global properties is determined by the Boolean algebra structures of the local ones. **The orthodox interpretation of quantum mechanics, however, was found to instantiate holism.**" (Seevinck, 2004).*

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Holism and Emergence

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