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	Nota di contenuto	FOUNDATIONS OF RELATIONAL REALISM; Contents; Preface; Part I: Philosophical Foundations of Quantum Relational Realism; Chapter 1-Introduction: Relational Realism: A Program in Speculative Philosophy; 1.1 Bipolar Dualism: Reducing Contrast to Mutually Exclusive Relata; 1.2 Bipolar Dualism and the Scientific Method: The Example of Physical and Philosophical Cosmology; 1.3 The Fallacy of Misplaced Concreteness; 1.4 Dipolar Duality: Contrasts of Mutually Implicative Relata; Chapter 2: Substance and Logic in Quantum Mechanics; 2.1 'Liberating' Science from Boolean Logic: A Sisyphean Adventure 2.2 Abandoning the Logic of One World for the Logic of Many Worlds: An Unlikely Liberation2.3 Quantum Mechanics and Boolean Logic; 2.4 Internal Relations in Quantum Mechanics; 2.5 The Compatibility Condition for Logical Causality in Quantum Mechanics; 2.6 Inducing the Global from the Local; 2.7 Decoherence: Causal Relation or Logical Integration?; 2.8 EPR and Quantum Nonlocality; 2.9 Topological Relations vs. Metrical Relations: Quantum Mechanics and Spacetime; 2.10 Substance in Quantum Mechanics: Relational Realism and the Philosophy of Alfred North Whitehead Chapter 3: Predication in Quantum Mechanics3.1 EPR and Decoherence; 3.2 The Problem of Self-Reference in Quantum Systems; 3.3 Quantum

Mechanics and the Theory of Logical Types; 3.4 Relations as Relata: From Set-Theoretic Classical Material Objects to Category-Theoretic Quantum Relational Events; 3.5 Summary; Chapter 4: Logical Causality in Quantum Mechanics: A Relational Realist Ontology; 4.1 Internal Relation and Logical Implication in Quantum Mechanics; 4.2 The Compatibility Condition Revisited; 4.3 The Evolution of Potentiality to Probability
4.4 Quantum Events as Dipolar Units of Relation: Their Subjective and Objective Features Are Mutually Implicative4.5 Quantum Mechanics Presupposes Logically Related Actual Occasions; 4.6 Summary; Chapter 5: Integrating Logical Relation and Extensive Relation: Mereotopology and Quantum Mechanics; 5.1 Mereotopological Notions of Internal Relation and Logical Implication; 5.2 Mereotopological Extensive Relations; 5.3 Summary; Interlude; Part II: Mathematical Foundations of Quantum Relational Realism; Chapter 6: Notion of Localization Processes; 6.1 Localization in Physical Theories
6.2 Localization Schemes6.3 The Conceptual Framework of Category Theory; 6.3.1 The Necessity of a Categorical Framework; 6.3.2 Categorical Principles and Terminology; 6.3.3 Universality and Equivalence; 6.4 The Methodology of Uniform Fibrations: Variable Set Presheaves; 6.5 The Localization Role of Topology: Covering Sieves and Sites; Chapter 7: Sheaves of Germs: The Topological Case; 7.1 Localization over a Topological Space; 7.2 Uniform Localization of Observables; 7.3 Gluing Sections and Local-to-Global Compatibility; 7.4 Contextuality: Germs and Stalks of Observable Sheaves
7.5 Completion and Functionalization: Display Bundles

Sommario/riassunto	Foundations of Relational Realism presents an intuitive interpretation of quantum mechanics, based on a revised decoherent histories interpretation, structured within a category theoretic topological formalism. More broadly, as a philosophical enterprise, the authors propose this conceptual framework as a speculative ontological program that includes a rigorous mathematical formalism, providing a coherent and intuitive ontological scheme that is both novel and applicable practically to the physical sciences.