

1. Record Nr.	UNINA9910452722603321
Autore	Kuhlmann Meinard
Titolo	The ultimate constituents of the material world [[electronic resource] ] : in search of an ontology for fundamental physics / / Meinard Kuhlmann
Pubbl/distr/stampa	Frankfurt, : Ontos Verlag, 2010
ISBN	3-11-032612-4
Descrizione fisica	1 online resource (291 p.)
Collana	Philosophische Analyse / Philosophical analysis ; ; Bd. 37
Disciplina	530.14 530.143
Soggetti	Ontology Physics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Frontmatter -- Contents -- Preface -- Part I. Ontology and Quantum Field Theory -- 1. Introduction -- 2. Philosophical Background -- 3. Ontology and Physics -- 4. History and Basic Structure of QFT -- 5. Alternative Approaches -- 6. The Ontological Significance of QFT and AQFT -- Part II. Classical Ontologies -- 7. Classical vs. Revisionary Ontologies -- 8. Particle Interpretation of QFT -- 9. Field Interpretations of QFT -- Part III. Revisionary Ontologies -- 10. Process Ontology -- 11. Trope Ontology I: The Ontological -- 12. Trope Ontology II: Properties and Things -- Part IV. The Trope Bundle Interpretation of QFT: A New Ontology for Fundamental Physics -- 13. Dispositional Trope Ontology -- Part V. Concluding Remarks -- 14. Physics and Philosophy -- 15. Summing Up -- Part VI. Appendices -- Abbreviations and Notation -- A. Special Relativity Theory: Some Notation and Required Results -- B. Ontologically Oriented Survey of Quantum Mechanics -- C. Advanced Foundational Topics in QFT -- D. Assumptions and Results of AQFT -- Bibliography -- Physics (and Mathematics) Glossary -- Philosophy Glossary -- Backmatter
Sommario/riassunto	Today, quantum field theory (QFT)-the mathematical and conceptual framework for contemporary elementary particle physics-is the best starting point for analysing the fundamental building blocks of the

material world. QFT if taken seriously in its metaphysical implications yields a picture of the world that is at variance with central classical conceptions. The core of Kuhlmann's investigation consists in the analysis of various ontological interpretations of QFT, e.g. substance ontologies as well as a process-ontological approach. Eventually, Kuhlmann proposes a dispositional trope ontology, a

2. Record Nr.	UNINA9910254598903321
Autore	Villata Massimo
Titolo	The Dark Arrow of Time : A Scientific Novel / / by Massimo Villata
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-67486-2
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (V, 163 p. 1 illus.)
Collana	Science and Fiction, , 2197-1188
Disciplina	813.0876208
Soggetti	Physics Particles (Nuclear physics) Quantum field theory Space sciences Fiction Popular Science in Physics Elementary Particles, Quantum Field Theory Space Sciences (including Extraterrestrial Physics, Space Exploration and Astronautics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	I Very fidgety, the fat lady next to him -- II They were flying over gentle crimson hills -- III Helias slept fitfully -- IV "Why did you do that?" -- V The next morning it rained -- VI Seated behind his enormous desk -- VII A sort of autumn had arrived -- VIII The professor, with his most blissful expression -- IX As they came closer to Mars -- X The pilot and the prisoner had reached the shuttle -- XI Nothing moved in the silent valley -- XII Helias was stretched out on the floor of his room -- XIII

"Are they high enough yet?" -- XIV The meeting had left Helias Kadler shaken and confused -- XV In that moment, Helias could remember very little of his conjectures -- XVI But Dr. Kadler, that hot afternoon near a sea on the planet Thayma -- XVII Helias had sat down on the step -- XVIII Everything had ended well.

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## Sommario/riassunto

This riveting scientific novel combines adventure, love, suspense, magic, pathos, and mystery in a carefully woven plot that is full of unexpected twists and turns. The author is an astrophysicist who has developed an alternative theory, which holds that traveling in time is possible. Time is, in fact, the real protagonist of the novel and of the intrigue surrounding the attempt to seize the secret of Time's other arrow, the dark arrow normally hidden from us, which points back at our past. The underlying premise is that antimatter is nothing more than common matter moving backwards in time. The justification for this interpretation has been with us for some time, "hiding in plain sight" within Maxwell's equations, the Lorentz transformations, the CPT theorem of relativistic quantum mechanics, and Feynman diagrams. While the science underlying the narrative is explained whenever necessary, sometimes with the aid of simple mathematical formulas, these scientific asides account for only a small part of the book, which will appeal to a wide audience, including readers who are far from being science buffs.

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