



## Causal Space-Time: Emergent Physics from Causality

By Richard D Bateson, Dr Richard D Bateson

Createspace, United States, 2010. Paperback. Book Condition: New. 220 x 152 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Causality - the concept of cause and effect - has long been viewed by philosophers, from Aristotle to Kant, as fundamental to our understanding of the universe. In this book we construct a theory of physics based on causality. We discover that the simplest causal network, based on Reichenbach's principle of common cause, exactly describes the Dirac equation and is consistent with both special relativity and quantum mechanical statistics. Are the elementary particles and fundamental laws of physics emergent from causality? Many historical philosophers would have perhaps taken this for granted and in this book we explore these ideas. Dr. Richard Bateson is a physicist based at the London Centre for Nanotechnology (LCN), University College London (UCL). He previously worked at the European Synchrotron Radiation Facility (ESRF), Institut Laue Langevin (ILL) and CERN. He has a doctorate in physics from Cambridge University.



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