

1. Record Nr.	UNINA9910464342103321
Titolo	Between chance and choice : interdisciplinary perspectives on determinism // edited by Harald Atmanspacher and Robert Bishop
Pubbl/distr/stampa	Charlottesville, Virginia : , : Imprint Academic, , 2002 ©2002
ISBN	1-84540-629-X
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (517 p.)
Disciplina	123
Soggetti	Free will and determinism Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover; Contents; Front matter; Title page; Publisher information; Body matter; Preface; Deterministic and Indeterministic Descriptions; 1 Introduction; 2 Deterministic Descriptions in Physics; 2.1 Laplacean Determinism; 3 Towards an Indeterministic Description in Physics; 3.1 Value Determinateness; 3.2 Differential Dynamics; 3.3 Unique Evolution; 3.4 Taking Stock; 4 Deterministic and Indeterministic Descriptions in Psychology; 4.1 Psychological Models of Determinism; 4.2 Deterministic Descriptions in Psychology; 4.3 Indeterministic Descriptions in Psychology; 4.4 Taking Stock; 5 Discussion Appendix: A Comment on Differential Dynamics Acknowledgments; References; Perspectives on Scientific Determinism; 1 Introduction; 2 Ernst Cassirer; 3 A Mathematical Structure for Scientific Determinism; 4 Emil du Bois-Reymond's Perspective on Nature; 5 A Perspective on du Bois-Reymond's Position; References; Determinism Is Ontic, Determinability Is Epistemic; 1 Introduction; 2 Ontic and Epistemic States of Classical Systems; 2.1 Stability; 2.2 Dynamical Entropy; 2.3 Information Flow; 3 Determinism, Causation, and Predictability; 3.1 Laplace, Maxwell, Poincare 3.2 Ontic Determinism and Epistemic Chaos 4 Determinism, Randomness, and Stochasticity; 5 Summary; Acknowledgments; References; Determinism, Internalism and Objectivity; 1 Chaos Theory; 2 The Problem of Determinism; 3 The Interpretation of Probability; 4

Internalist Realism; 5 Perspectives; 6 Some Remaining Problems; References; Hidden Determinism, Probability, and Time's Arrow; 1 Determinism Does Not Deal with Predictions; 2 Terminology and Basic Concepts; 3 Breaking the Time-Reversal Symmetry; 4 Arrow of Time; 5 Indeterminism; 6 Statistical Causality; 7 Why Can There Be Laws of Chance?  
8 Are There Statistically Irreproducible Events? 9 Hadamard's Principle of Scientific Determinism; 10 Experimental Science Requires Freedom of Action; 11 Quantum Randomness; 12 Quantum Mechanics Cannot Explain Free Will; 13 Why Does Time's Arrow Always Point in the Same Direction?; 14 Hadamard Determinism Cannot Be Globally Valid; Acknowledgements; References; Time-Space Dilations and Stochastic-Deterministic Dynamics; 1 Introduction; 2 Dilations of Stochastic Descriptions to Deterministic Dynamics; 3 Mathematical Dilation Theories; 4 Physical Interpretations of Dilations; 5 Time and Space  
6 Knowing the Present 7 Financial Option Theory; 8 Changeux and Connes, and Chaitin; 9 Digression on Determinism; 10 Final Thoughts; References; Transitions from Deterministic Evolution to Irreversible Probabilistic Processes and the Quantum Measurement Problem; 1 Introduction; 2 Deterministic Dynamics and Probabilistic Markov Processes; 3 Instability of Motion and the Transition from Deterministic Dynamical Evolution to Probabilistic Processes; 4 The Quantum Measurement Problem; Acknowledgments; References; Probabilistic Causality and Irreversibility: Heraclitus and Prigogine; 1 Introduction  
2 A Dialogue between Heraclitus and Prigogine

---

Sommario/riassunto

Are choice and free will possible in a world governed by deterministic fundamental equations? What sense would determinism make if many events and processes in the world seemed to be governed by chance? These and many other questions emphasize the fact that chance and choice are two leading actors on stage whenever issues of determinism are under discussion. This volume collects essays by accomplished scientists and philosophers, addressing numerous facets of the concept of determinism. The ...

---