Contents

Part I Philosophy of Computing

1	What Is a Computational Constraint?Cem Bozşahin	3
2	Computing Mechanisms and Autopoietic Systems Joe Dewhurst	17
3	Are Gandy Machines Really Local? Vincenzo Fano, Pierluigi Graziani, Roberto Macrelli, and Gino Tarozzi	27
4	A Refutation of the Church-Turing Thesis According to Some Interpretation of What the Thesis Says Doukas Kapantaïs	45
5	In What Sense Does the Brain Compute? Paul Schweizer	63
Pa	rt II Philosophy of Computer Science & Discovery	
6	Computational Scientific Discovery and Cognitive Science Theories Mark Addis, Peter D. Sozou, Peter C. Lane, and Fernand Gobet	83
7	Discovering Empirical Theories of Modular Software Systems. An Algebraic Approach Nicola Angius and Petros Stefaneas	99
8	Introducing the Doxastically Centered Approach to Formalizing Relevance Bonds in Conditionals Selmer Bringsjord, John Licato, Daniel Arista, Naveen Sundar Govindarajulu, and Paul F. Bello	117

digitalisiert durch: IDS Luzern

9	From Silico to Vitro: Computational Models of Complex Biological Systems Reveal Real-World Emergent Phenomena Orly Stettiner	133
Par	t III Philosophy of Cognition & Intelligence	
10	Why We Shouldn't Reason Classically, and the Implications for Artificial Intelligence Douglas Campbell	151
11	Cognition as Higher-Order Regulation Stefano Franchi	167
12	Eliminativisms, Languages of Thought, & the Philosophy of Computational Cognitive Modeling Marcello Guarini	179
13	A Mechanistic Account of Computational Explanation in Cognitive Science and Computational Neuroscience Marcin Miłkowski	191
14	Internal Supervision & Clustering: A New Lesson from 'Old' Findings? Alexandros Tillas	207
Par	t IV Computing & Society	
15	Floridi/Flusser: Parallel Lives in Hyper/Posthistory Vassilis Galanos	229
16	Machine Ethics and Modal Psychology Paul F. Bello	245
17	My Liver Is Broken, Can You Print Me a New One? Marty J. Wolf and Nir Fresco	259
18	Robots, Ethics and Software – FOSS vs. Proprietary Licenses Marty J. Wolf, Frances Grodzinsky, and Keith W. Miller	271