CONTENTS

Introduction	1	v
A. MARK	ET DYNAMICS	1
Chapter 1	Trading Behavior and Excess Volatility in Toy Markets $M.\ Marsili\ and\ D.\ Challet$	3
Chapter 2	Percolation Models of Financial Market Dynamics $D.\ Stauffer$	19
Chapter 3	Electrodynamical Model of Quasi-Efficient Financial Market K. N. Ilinski and A. S. Stepanenko	29
Chapter 4	Multi-Agent Market Modeling of Foreign Exchange Rates $G.\ Zimmermann,\ R.\ Neuneier\ and\ R.\ Grothmann$	35
Chapter 5	Forecasting Price Increments Using an Artificial Neural Network $F.\ Castiglione$	51
Chapter 6	Spectral Regularization, Data Complexity and Agent Behavior $A.\ \mathit{Ilyinsky}$	63
B. TECHN	NOLOGICAL EVOLUTION	77
Chapter 7	Dynamics of Economic and Technological Search Processes in Complex Adaptive Landscapes W. Ebeling, Karmeshu and A. Scharnhorst	79
Chapter 8	New Results in a Self-Organized Model of Technological Evolution A. Arenas, A. Díaz-Guilera, X. Guardiola, M. Llas, G. Oron, C. J. Pérez and F. Vega-Redondo	97
Chapter 9	Firms Decision Making Process in an Evolutionary Model of Industrial Dynamics $W.\ Kwasnicki$	109
C. SPATIAL DYNAMICS AND ECONOMIC GROWTH		
Chapter 10	Modelling Migration and Economic Agglomeration with Active Brownian Particles F. Schweitzer	137

$2\quad Contents$

Chapter 11	The Evolution of Industrial Clusters — Simulating Spatial Dynamics T. Brenner and N. Weigelt	161
Chapter 12	The Growth Dynamics of German Business Firms $J.\ Voit$	183
Chapter 13	A Dynamic Theory of a Firm: An Application of 'Economic Forces' $M.\ Estola$	197
D. DECISION PROCESSES		
Chapter 14	Adaptive Platform Dynamics in Multi-Party Spatial Voting B. M. R. Stadler	213
Chapter 15	Subtle Nonlinearity in Popular Album Charts R. A. Bentley and H. D. G. Maschner	231
Chapter 16	Dynamical Aspects in the Adoption of Agri-Environmental Measures G. Weisbuch and G. Boudjema	245
Chapter 17	Collective Choice and Mutual Knowledge Structures D. Richards, B. D. McKay and W. A. Richards	273
E. AGENT SOCIETIES		291
Chapter 18	Evolutionary Study of Interethnic Cooperation V. Kvasnicka and J. Pospichal	293
Chapter 19	Coalition Factor in the Evolution of Non-Kin Altruism $\it JL.$ $\it Dessalles$	323
Chapter 20	Optimal Payoff Functions for Members of Collectives D. H. Wolpert and K. Tumer	355
Chapter 21	A Day at the Beach: Human Agents Self Organizing on the Sand Pile H. Ishii, N. Wang and S. E. Page	371
Author Index		397