



# Contents

<b>Introduction</b> <i>By E. Zwierlein</i>	1
<b>Self-Organization in Evolution, Immune Systems, Economics, Neural Nets, and Brains</b> <i>By H. J. Bremermann</i>	5
<b>On the Evolution of Open Socio-economic Systems</b> <i>By F. Hinterberger</i>	35
<b>Can Synergetics Serve as a Bridge Between the Natural and Social Sciences</b> <i>By H. Haken</i>	51
<b>Modelling Concepts of Synergetics with Application to Transitions Between Totalitarian and Liberal Political Ideologies</b> <i>By W. Weidlich</i>	66
<b>Self-Organization, Artificial Intelligence and Connectionism</b> <i>By M. Richter</i>	80
<b>Speedup of Self-Organization Through Quantum Mechanical Parallelism</b> <i>By M. Conrad</i>	92
<b>Living State for Self-Organization A Plea</b> <i>By R. K. Mishra</i>	109
<b>A Model for Stimulated and Co-operative Electron Transfer in Biomolecular Systems</b> <i>By L. Pohlmann and H. Tributsch</i> . . . . .	133
<b>Self-Organization, Catastrophe Theory and the Problem of Segmentation</b> <i>By P. T. Saunders and M. W. Ho</i> . . . . .	143

<b>Self-Organization, Entropy and Order</b> <i>By P. T. Landsberg</i>	157
<b>Self-Organization, Valuation and Optimization</b> <i>By W. Ebeling</i>	185
<b>Symbolic Dynamics and the Description of Complexity</b> <i>By B. Hao</i>	197
<b>Instabilities in Nonlinear Dynamics: Paradigms for Self-Organization</b> <i>By R. Bullough</i>	212
<b>Uncertainty Principle, Coherence and Structures</b> <i>By K. Li</i>	245
<b>Intrinsic Irreversibility of Unstable Dynamical System</b> <i>By E. Antoniou and S. Tasaki</i>	256
<b>Self-Organization as a Creative Process Philosophical Aspects</b> <i>By V. Nalimov</i>	270
<b>Music and Mind – A Theory of Aesthetic Dynamics</b> <i>By B. D. Josephson and T. Carpenter . . . . .</i>	280
<b>The Paradigm of Self-Organization and Its Philosophical Foundation</b> <i>By E. Zwierlein</i>	288

