Contents

Marcelo Alonso	vii
Part I: Organization and Complexity in Physical Systems	
 Gravitation and the Origin of Large Structures in the Universe Jacob D. Bekenstein 	1
2. On the Origin of Order in the Universe Roman U. Sexl	24
3. Order in the Physical Universe Georg Sussmann	35
4. Particle Physics and Cosmic Evolution Harald Fritzsch	40
Part II: Organization and Complexity in Living Systems	
5. The Origin of Life: The Emergence of Organized Self-Replicating Molecular Systems Bulent Atalay	69
6. Complexity of the Structure and Dynamics of the Genome Guido Pincheira	89
7. Complexity and Life Efraim Otero	107

8.	Organization and Change in Eukaryotic Cells Claude A. Villee, Jr.	110
9.	Mind: Mapping and Reconstruction of Reality Percy Löwenhard	126
Par	t III: Organization and Complexity in Social System	ns
10.	The Evolution of the Extended Order: Reflections on Hayek's Theory and its Political Implications	
	Gerard Radnitzky	157
11.	Note on von Hayek's theory Angelo M. Petroni	196
12.	Self-Organization and Technological Change in the Economic System	
	Robert U. Ayres	204
13.	Thermodynamics, Economics and Information Nicholas Georgescu-Roegen	225
Par	t IV: General Considerations	
14.	Integrative Concepts in the Physical Sciences Max Jammer	237
15.	Self-Organization and Evolution through Fluctuations and Instabilities	
	Manuel G. Velarde	255
16.	Order Out of Chaos through Fluctuations and Instabilities (Commentary on Velarde's paper) Carl Rau	260
Cor	ntributors	
		267
Inde	ex	269