

Contents

Part I The Phenomenon of Life. Essentials

1	Life on Earth	3
2	Material Basis of Life	19
3	Origin and Development of Life	37
4	Discreteness, Order, Organization, and Integrity	45
5	Living Systems	53
6	Life States	57

Part II Living Bodies: Carriers of Life

7	A Mode and a Tool of Life	65
8	Cells and Organisms.	73
9	Reproduction and Individual Development	81
10	Evolution	95
11	Homeostasis and the Maintenance of Integrity.	113
12	Ageing and Death of Individuals	123

**Part III How Life Works: Mechanisms and Processes
 of Living Bodies**

13 Bodies, Processes, Mechanisms and Interactions 137

14 Strategy of Biological Catalysis 141

15 Strategy of Copying 151

16 Strategy of Self-Organization 157

17 Strategy of Matter and Energy Transformation. 165

18 Cell Mechanisms 183

19 Physiological Mechanisms. 191

Part IV Mechanisms of the Invisible World of Information

20 Biological Information and Cybernetics. 201

21 Genetic Information 219

22 Genes and Genomes 229

23 Functional Systems of Genes. 241

24 Genetic Continuity 251

Part V Duality of Life

25 Body and Intelligence Duality 261

26 Genomes and Their Bodies 263

27 Bodies and Associated Phenomena 277

Conclusion 287

Index 291

Titles in this Series 295