

The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems
The Evolution of Adaptive Systems

The Evolution of Adaptive Systems

James P. Brock

James P. Brock

James P. Brock

James P. Brock

James P. Brock

Suranaree University of Technology



31051000655726



Academic Press

CONTENTS

FOREWORD ix

PREFACE xi

- 1** Adaptation and the Adaptive System 1
- 2** Spatial Structure of the Adaptive Niche 27
- 3** Dynamics of the Adaptive Niche 43
- 4** The Selection Interface 53
- 5** Adaptive Equilibrium 67
- 6** The Cladogenetic Selection Interface 85
- 7** Adaptive Potential, Biophysical Paradigms, and the Selectional Attractor 121
- 8** Evolutionary Mode 145
- 9** Structural Paradigms of Development 161
- 10** Adaptive Capacity and Potential in the Mechanisms of Development 175
- 11** Developmental Genetics, Adaptive Capacity, and Potential 199

- 12 Mutation and Realization of Adaptive Potential 231**
- 13 Chromosome Structure and Adaptive Topography 275**
- 14 Evolutionary Impediments and the Adaptive Substrate for Evolutionary Change 299**
- 15 Darwinian versus Thompsonian Factors in Evolution 325**
- 16 The Morphogenetic Topology of Evolutionary Change 351**
- 17 Architecture of the Phyletic Lineage 401**
- 18 Evolutionary Rate and Episodic Evolution 441**
- 19 Stasis and the Adaptive Substrate 491**
- 20 Extinction—Lineage to Clade 511**
- 21 From Lineage to Taxon 531**

EPILOGUE: AN OVERVIEW OF THE GENERAL THEORY 591

GLOSSARY 599

BIBLIOGRAPHY 619

INDEX 631