

## PREFACE

This book discusses the basic foundations of theoretical biology. Contrary to the objects of theoretical physics, the biological object contains a kind of ontological duality and refers to a fundamental wholeness of living systems. The rational interpretation of wholeness is considered by the author as a true basis for the fundamental principles of theoretical biology's development and for understanding its link to physics, to psychology, and to semiotics. The rational holistic approach, in application to theoretical biology, can be substantiated through a clarification of the internal logic of the organization and description of biological systems. This logic will provide an understanding of the place of life in the Universe. The main goal of this book is to introduce the view that in the potentially infinite system of human knowledge, the proper clarification of Man's place in the Universe is possible only via understanding of the phenomenon of life. This phenomenon may determine the most substantial physical parameters of the world. The place of biology in the system of human knowledge is of particular importance because this discipline describes the world that borders, both with the physical and the psychological realities, and defines basic foundations of semiotic structures that determine the comprehension of the world as a whole.

# CONTENTS

<b>Preface</b>		<b>vii</b>
<b>Introduction</b>		<b>1</b>
<b>Chapter 1</b>	Quantum Measurement and Living Process	<b>3</b>
<b>Chapter 2</b>	Internal Quantum State, Its Maintenance and Exhibition	<b>25</b>
<b>Chapter 3</b>	Metabolic System, Its Dynamics and Closure	<b>57</b>
<b>Chapter 4</b>	Generation of Spatiotemporal Patterns in Living Systems	<b>85</b>
<b>Chapter 5</b>	The Logical Background of Life	<b>103</b>
<b>Chapter 6</b>	The Logic of Life and Internal Computability of Biological Systems	<b>129</b>
<b>Epilogue</b>		<b>149</b>
<b>References</b>		<b>151</b>
<b>Index</b>		<b>169</b>