## CONTENTS

1

63

99

135

139

Gradients in Biology, in Mathematics, and Simultaneous Opti-

**Foreword** 

mization

of Populations
Robert M. May

J. D. Cowan

**Author Index** 

**Subject Index** 

Jack D. Cowan

René Thom	
A Mathematical Model of Two Cells Via Turing's Equation	15
S. Smale	
Positional Information and the Development of Pattern and Form	27
L. Wolpert	
Quantitative Analysis of the Development of Cellular Slime Molds. II	43
Anthony Robertson and Morrel H. Cohen	
How Many Species: Some Mathematical Aspects of the Dynamics	

**Mathematical Models of Large-Scale Nervous Activity**