# CONTENTS

## PREFACE

## ACKNOWLEDGEMENTS

## GENERAL INTRODUCTORY PAPERS

1. Catastrophe theory: Draft for a Scientific American article  
2. Levels of structure in catastrophe theory

## BIOLOGICAL SCIENCES

3. Differential equations for the heartbeat and nerve impulse  
4. Primary and secondary waves in developmental biology  
5. A clock and wavefront model for the control of repeated structures during animal morphogenesis (with J. Cooke)  
6. Gastrulation and formation of somites in amphibia and birds (Addendum by R. Bellairs.)  
7. Dialogue between a Biologist and a Mathematician  
8. Brain modelling  
9. Duffing's equation in brain modelling

## SOCIAL SCIENCES

10. Some models in the social sciences (with C.A. Isnard)  
11. On the unstable behaviour of stock exchanges  
12. Conflicting judgements caused by stress  
13. A model for institutional disturbances (with C.S. Hall, P.J. Harrison, G.H. Marriage, P.H. Shapland)  
14. Prison disturbances

## PHYSICAL SCIENCES

15. A catastrophe machine  
16. Euler buckling  
17. Stability of ships

## MATHEMATICS

18. The classification of elementary catastrophes of codimension \( \leq 5 \) (with D.J.A. Trotman)  
19. The umbilic bracelet and the double-cusp catastrophe

## DISCUSSION

20. Research ancient and modern  
22. Afterthought

## INDEX

## PUBLICATION DETAILS