PREFACE iX
ACKNOWLEDGMENTS XVII

## I INTRODUCTION 1

1. Science: An Honorable Enterprise
Congress and the Financial
Support of Scientific Research 28

## I PERSONAL BIOLOGY 31

2. A Perspective on Human Life
The Cell 58
Cell Division 61
DNA—Structure and Replication 62
DNA—Protein Synthesis 64
The Genetic Code and Mutation 65
Amniocentesis 66
Atoms and Radiation 68
Radiation and the Unborn Child 74

- 3. Life: An Instant-Thick Snapshot
  Muscles 111
  The Lymphatic System 114
  The Hemoglobins 115
  The Pituitary-Hypothalamus Connection 117
  The Liver 118
  Feedback 121
- 4. Energy for Life 123
  Equilibria 146
  Biogeochemical Cycles 148
  Alternatives to Oxygen 152
- 5. Water and Heat 155
  Heat Transfer 165
  Water, a Special Substance 166
  Survival at Sea 168
- 6. When Things Go Wrong 170
  Antibiotics 187
  Immunoglobulins (Antibodies) 190
  Acquired Immune Deficiency Syndrome (AIDS) 193
  Voltaire (1694–1778): On Inoculation 196
  Some Nonbacterial, Nonviral Diseases
  of the Third World 198

- 7. Populations 207 Metrical Traits Population Growth and Its Limitation by the Environment 231 Epidemiology 232 A Manmade Epidemic among Australian Rabbits
- 8. Selection: Natural and Artificial 237
- 9. Evolution 256 **Chromosomal Aberrations** Continental Drift, Land Bridges, and Wallace's Line 279 More on Ecological Convergence 282 Taxonomy and Systematics 284
- 10. Communities of Species Testing Goodness-of-Fit (Chi-square) Island Biogeography

## IV BIOLOGY AND SOCIET

- 11. Human Variation Genetics and IQ: Fatal Flaws in the Conventional "Wisdom" 331
- 12. The Origin and Maintenance of Human Variation 336
- 13. Human Communities 359
- 14. Community Problems: Community Solutions 377

15. Quo Vadis?

SUGGESTED READINGS 425 INDEX 433