
Contents

Preface ix

Introduction xi

I

Historical Readings

Introduction 2

1

Charles Darwin and Group Selection 9

Michael Ruse

2

The Roles of Mutation, Inbreeding, Crossbreeding, and Selection in Evolution 29

Sewall Wright

3

Theories of Group Selection 40

Sewall Wright

4

Intergroup Selection in the Evolution of Social Systems 42

V. C. Wynne-Edwards

5

Group Selection 52

George C. Williams

6

The Unity of Genotype 69

Ernst Mayr

II

Levels and Units of Selection: Conceptual Analyses

Introduction 86

7

Reductionistic Research Strategies and Their Biases in the Units of Selection Controversy 90

William C. Wimsatt

8

Artifact, Cause and Genic Selection 109

Elliott Sober and Richard C. Lewontin

9

The Levels of Selection 133

Robert N. Brandon

10

Units of Evolution: A Metaphysical Essay 142

David Hull

11

Replicators and Vehicles 161

Richard Dawkins

III

Models of Selection: Kin, Group, and Hierarchical

Introduction 182

12

Innate Social Aptitudes of Man: An Approach from Evolutionary Genetics 193

W. D. Hamilton

13

The Theory of Kin Selection 203

Richard E. Michod

14

Group Selection 238

J. Maynard Smith

15

A Critical Review of the Models of Group Selection 250

Michael J. Wade

16

Individual Selection and the Concept of Structured Demes 272

David Sloan Wilson

17

The Theory of Evolution by Natural Selection: A Hierarchical Expansion 292

Anthony J. Arnold and Kurt Fristrup

Acknowledgments 321

Index 323