

Contents

Preface xv
Acknowledgments xviii

PART I: FOUNDATIONS OF EVOLUTIONARY PSYCHOLOGY

1. The Scientific Movements Leading to Evolutionary Psychology 2

 Landmarks in the History of Evolutionary Thinking 3

Evolution before Darwin 3

Darwin's Theory of Natural Selection 4

Darwin's Theory of Sexual Selection 6

The Role of Natural Selection and Sexual Selection in Evolutionary Theory 7

The Modern Synthesis: Genes and Particulate Inheritance 9

The Ethology Movement 10

The Inclusive Fitness Revolution 11

Clarifying Adaptation and Natural Selection 13

Trivers's Seminal Theories 15

The Sociobiology Controversy 15

 Common Misunderstandings about Evolutionary Theory 16

Misunderstanding 1: Human Behavior Is Genetically Determined 16

Misunderstanding 2: If It's Evolutionary, We Cannot Change It 17

Misunderstanding 3: Current Mechanisms Are Optimally Designed 17

 Milestones in the Origins of Modern Humans 18

 Landmarks in the Field of Psychology 21

 ■ **BOX 1.1:** Out of Africa versus Multiregional Origins: The Origins of Modern Humans 22

Freud's Psychoanalytic Theory 23

William James and the Psychology of Instincts 24

The Rise of Behaviorism 25

The Astonishing Discoveries of Cultural Variability 25

The Garcia Effect, Prepared Fears, and the Decline of Radical Behaviorism 26

Peering into the Black Box: The Cognitive Revolution 27

Summary	29
Critical Thinking Questions	31
Suggested Readings	32

2. The New Science of Evolutionary Psychology 33

The Origins of Human Nature	34
<i>Three Theories of the Origins of Complex Adaptive Mechanisms</i>	34
<i>The Three Products of Evolution</i>	35
<i>Levels of Evolutionary Analysis in Evolutionary Psychology</i>	38
The Core of Human Nature: Fundamentals of Evolved Psychological Mechanisms	44
<i>All Species Have a Nature</i>	44
<i>Definition of an Evolved Psychological Mechanism</i>	45
<i>Important Properties of Evolved Psychological Mechanisms</i>	48
<i>Learning, Culture, and Evolved Psychological Mechanisms</i>	53
Methods for Testing Evolutionary Hypotheses	54
<i>Comparing Different Species</i>	55
<i>Cross-Cultural Methods</i>	55
<i>Physiological and Brain Imaging Methods</i>	56
<i>Genetic Methods</i>	57
<i>Comparing Males and Females</i>	57
<i>Comparing Individuals within a Species</i>	58
<i>Comparing the Same Individuals in Different Contexts</i>	58
<i>Experimental Methods</i>	59
Sources of Data for Testing Evolutionary Hypotheses	59
<i>Archaeological Records</i>	59
<i>Data from Hunter-Gatherer Societies</i>	60
<i>Observations</i>	60
<i>Self-Reports</i>	60
<i>Life-History Data and Public Records</i>	61
<i>Human Products</i>	61
<i>Transcending the Limitations of Single Data Sources</i>	61
Identifying Adaptive Problems	62
<i>Guidance from Modern Evolutionary Theory</i>	62
<i>Guidance from Knowledge of Universal Human Structures</i>	62
<i>Guidance from Traditional Societies</i>	63
<i>Guidance from Paleoarcheology and Paleoanthropology</i>	63
<i>Guidance from Current Mechanisms</i>	63
<i>Guidance from Task Analysis</i>	64
<i>Organization of Adaptive Problems</i>	64
Summary	64
Critical Thinking Questions	66
Suggested Readings	66

PART 2: PROBLEMS OF SURVIVAL

3. Combating the Hostile Forces of Nature	68
Food Acquisition and Selection	70
<i>Social and Cultural Aspects of Food</i>	70
<i>Food Preferences</i>	71
<i>Disgust: The Disease-Avoidance Hypothesis</i>	71
<i>Sickness in Pregnant Women: The Embryo Protection Hypothesis</i>	73
<i>Fire and Cooking</i>	74
<i>Why Humans Like Spices: The Antimicrobial Hypothesis</i>	75
<i>Why Humans Like to Drink Alcohol: An Evolutionary Hangover?</i>	76
<i>The Hunting Hypothesis</i>	76
<i>The Gathering Hypothesis</i>	80
<i>Comparing the Hunting and Gathering Hypotheses</i>	81
<i>Adaptations to Gathering and Hunting: Sex Differences in Specific Spatial Abilities</i>	81
Finding a Place to Live: Shelter and Landscape Preferences	83
<i>The Savanna Hypothesis</i>	84
Combating Predators and Other Environmental Dangers: Fears, Phobias, Anxieties, and Adaptive Biases	85
<i>Most Common Human Fears</i>	87
<i>Children's Antipredator Adaptations</i>	90
■ BOX 3.1: Evolved Navigation Theory and the Descendant Illusion	91
<i>Darwinian Medicine: Combating Disease</i>	92
Why Do People Die?	93
<i>The Theory of Senescence</i>	93
<i>The Puzzle of Suicide</i>	94
<i>Homicide</i>	96
Summary	97
Critical Thinking Questions	98
Suggested Readings	99

PART 3: CHALLENGES OF SEX AND MATING

4. Women's Long-Term Mating Strategies	102
Theoretical Background for the Evolution of Mate Preferences	103
<i>Parental Investment and Sexual Selection</i>	103
<i>Mate Preferences as Evolved Psychological Mechanisms</i>	104

The Content of Women's Mate Preferences	105
<i>Preference for Economic Resources</i>	105
<i>Preference for Good Financial Prospects</i>	107
<i>Preference for High Social Status</i>	110
<i>Preference for Somewhat Older Men</i>	111
<i>Preference for Ambition and Industriousness</i>	113
<i>Preference for Dependability and Stability</i>	113
<i>Preference for Height and Athletic Prowess</i>	114
<i>Preference for Good Health: Symmetry and Masculinity</i>	115
<i>Love and Commitment</i>	118
<i>Preference for Willingness to Invest in Children</i>	119
<i>Preference for Similarity</i>	121
<i>Additional Mate Preferences: Kindness, Humor, Incest Avoidance, and Voice</i>	121
Context Effects on Women's Mate Preferences	122
<i>Effects of Women's Personal Resources on Mate Preferences</i>	122
<i>The Mere Presence of Attractive Others: Mate Copying</i>	124
<i>Effects of Temporal Context on Women's Mate Preferences</i>	124
<i>Effects of Women's Mate Value on Mate Preferences</i>	124
How Women's Mate Preferences Affect Actual Mating Behavior	125
<i>Women's Responses to Men's Personal Ads</i>	126
<i>Women's Marriages to Men High in Occupational Status</i>	126
<i>Women's Marriages to Men Who Are Older</i>	127
<i>Effects of Women's Preferences on Men's Behavior</i>	127
Summary	128
■ BOX 4.1: What about Lesbian Sexual Orientation?	130
Critical Thinking Questions	131
Suggested Readings	131

5. Men's Long-Term Mating Strategies 133

Theoretical Background for the Evolution of Men's Mate Preferences	133
<i>Why Men Might Benefit from Commitment and Marriage</i>	134
<i>The Problem of Assessing a Woman's Fertility or Reproductive Value</i>	134
The Content of Men's Mate Preferences	136
<i>Preference for Youth</i>	136
<i>Evolved Standards of Physical Beauty</i>	138
<i>Body Fat, Waist-to-Hip Ratio, and Body Mass Index</i>	142
<i>Sex Differences in the Importance of Physical Appearance</i>	145

<i>Do Men Have a Preference for Ovulating Women?</i>	146
<i>Solutions to the Problem of Paternity Uncertainty</i>	148

■ **BOX 5.1: Homosexual Orientation: An Evolutionary Puzzle** 151

Context Effects on Men's Mating Behavior 152

<i>Men in Positions of Power</i>	152
<i>Contrast Effects from Viewing Attractive Models</i>	153
<i>Testosterone and Men's Mating Strategies</i>	154
<i>The Necessities and Luxuries of Mate Preferences</i>	156

Effect of Men's Preferences on Actual Mating Behavior 156

<i>Men's Responses to Women's Personal Ads</i>	156
<i>Marital Decisions and Reproductive Outcomes</i>	157
<i>Effect of Men's Preferences on Attention, Vocalization, Tips, and Engagement Rings</i>	158
<i>Effect of Men's Mate Preferences on Women's Competition Tactics</i>	158

Summary 160

Critical Thinking Questions ~161

Suggested Readings 162

6. Short-Term Sexual Strategies 163

Theories of Men's Short-Term Mating 164

<i>Adaptive Benefits for Men of Short-Term Mating</i>	164
<i>Potential Costs of Short-Term Mating for Men</i>	165
<i>Adaptive Problems Men Must Solve When Pursuing Short-Term Mating</i>	165

■ **BOX 6.1: Functions versus Beneficial Effects of Short-Term Mating** 165

<i>Evidence for an Evolved Short-Term Mating Psychology</i>	166
<i>Physiological Evidence for Short-Term Mating</i>	167
<i>Psychological Evidence for Short-Term Mating</i>	168
<i>Behavioral Evidence of Short-Term Mating</i>	175

Women's Short-Term Mating 176

<i>Evidence for Women's Short-Term Mating</i>	176
<i>Hypotheses about the Adaptive Benefits to Women of Short-Term Mating</i>	178
<i>Costs to Women of Short-Term Mating</i>	180
<i>Empirical Tests of Hypothesized Benefits to Women</i>	181

Context Effects on Short-Term Mating 184

<i>Individual Differences in Short-Term Mating</i>	184
<i>Other Contexts Likely to Affect Short-Term Mating</i>	186

Summary 189

Critical Thinking Questions 190

Suggested Readings 190

PART 4: CHALLENGES OF PARENTING AND KINSHIP

7. Problems of Parenting 194

Why Do Mothers Provide More Parental Care Than Fathers? 196

The Paternity Uncertainty Hypothesis 196

The Mating Opportunity Cost Hypothesis 197

An Evolutionary Perspective on Parental Care 198

Genetic Relatedness to Offspring 199

Offspring's Ability to Convert Parental Care into Reproductive Success 208

Alternative Uses of Resources Available for Investment in Children 213

The Theory of Parent–Offspring Conflict 218

Mother–Offspring Conflict in Utero 219

Mother–Child Conflict and Sibling Relatedness 220

Parent–Offspring Conflict over Mating 221

■ **BOX 7.1: Killing Parents and the Asymmetry of Valuing Parents and Children** 222

Summary 222

Critical Thinking Questions 224

Suggested Readings 224

8. Problems of Kinship 225

Theory and Implications of Inclusive Fitness 226

Hamilton's Rule 226

Theoretical Implications of Hamilton's Rule 227

Empirical Findings that Support the Implications of Inclusive Fitness Theory 230

Alarm Calling in Ground Squirrels 231

Kin Recognition and Kin Classifications in Humans 232

Patterns of Helping in the Lives of Los Angeles

Women 233

Life-or-Death Helping among Humans 234

Genetic Relatedness and Emotional Closeness: Is Blood Thicker Than Water? 236

Vigilance over Kin's Romantic Relationships 237

Kinship and Stress 237

Kinship and Survival 237

Patterns of Inheritance—Who Leaves Wealth to Whom? 238

Investment by Grandparents 240

- **BOX 8.1:** Investment by Aunts, Uncles, and Cousins 244
 - A Broader Perspective on the Evolution of the Family* 245
 - The Dark Side of Families* 248
- Summary 250
- Critical Thinking Questions 252
- Suggested Readings 253

PART 5: PROBLEMS OF GROUP LIVING

- 9. Cooperative Alliances 256
 - The Evolution of Cooperation 257
 - The Problem of Altruism* 257
 - A Theory of Reciprocal Altruism 257
 - Tit for Tat* 258
 - **BOX 9.1:** Strategies for Promoting Cooperation 260
 - Cooperation among Nonhumans 260
 - Food Sharing in Vampire Bats* 260
 - Chimpanzee Politics* 261
 - Cooperation and Altruism among Humans 262
 - Social Contract Theory* 262
 - Evidence for Cheater-Detection Adaptations* 264
 - Do People Remember Cheaters?* 267
 - The Detection of Prospective Altruists* 268
 - Indirect Reciprocity Theory* 269
 - Costly Signaling Theory* 269
 - The Psychology of Friendship* 270
 - Costs and Benefits of Friendship* 275
 - Cooperative Coalitions* 278
 - Summary 282
 - Critical Thinking Questions 283
 - Suggested Readings 284
- 10. Aggression and Warfare 285
 - Aggression as a Solution to Adaptive Problems 286
 - Co-opt the Resources of Others* 286
 - Defend against Attack* 287
 - Inflict Costs on Intrasexual Rivals* 287
 - Negotiate Status and Power Hierarchies* 288
 - Deter Rivals from Future Aggression* 288
 - Deter Long-Term Mates from Sexual Infidelity* 288
 - The Context-Specificity of Aggression* 289
 - Why Are Men More Violently Aggressive than Women? 290

■ BOX 10.1: The Recalibration Theory of Anger	292
Empirical Evidence for Distinct Adaptive Patterns of Aggression	292
<i>Evidence for Sex Differences in Same-Sex Aggression</i>	293
<i>Contexts Triggering Men's Aggression against Men</i>	297
<i>Contexts Triggering Women's Aggression against Women</i>	299
<i>Contexts Triggering Men's Aggression against Women</i>	300
<i>Contexts Triggering Women's Aggression against Men</i>	301
<i>Warfare</i>	301
■ BOX 10.2: Yanomamö Warfare	302
■ BOX 10.3: The Puzzle of Suicide Terrorism	309
<i>Do Humans Have Evolved Homicide Mechanisms?</i>	309
Summary	312
Critical Thinking Questions	313
Suggested Readings	314

11. Conflict between the Sexes 315

Strategic Interference Theory	316
Conflict about the Occurrence and Timing of Sex	318
<i>Conflict over Sexual Access</i>	318
Sexual Aggression, Sexual Exploitation, and Women's Coevolved Defenses	322
<i>Sexual Harassment</i>	322
<i>Sexual Exploitation and Cues to Sexual Exploitability</i>	323
<i>Sexual Aggressiveness</i>	324
<i>Do Men Have Evolved Rape Adaptations?</i>	325
<i>Individual Differences in Rape Proclivity</i>	326
<i>Do Women Have Evolved Antirape Adaptations?</i>	328
Jealous Conflict	329
<i>Sex Differences in Jealousy</i>	330
From Vigilance to Violence: Tactics of Mate Retention	336
<i>Sex Differences in the Use of Mate-Retention Tactics</i>	337
<i>Contexts Influencing the Intensity of Mate-Retention Tactics</i>	337
<i>Violence toward Partners</i>	340
Conflict over Access to Resources	342
<i>Causes of Resource Inequality: Women's Mate Preferences and Men's Competitive Tactics</i>	343
■ BOX 11.1: Are All Men United to Control Women?	344
Summary	344
Critical Thinking Questions	347
Suggested Readings	347

12. Status, Prestige, and Social Dominance	348
The Emergence of Dominance Hierarchies	349
Dominance and Status in Nonhuman Animals	350
Evolutionary Theories of Dominance, Prestige, and Status	351
<i>An Evolutionary Theory of Sex Differences in Status Striving</i>	354
■ BOX 12.1: Tactics of Hierarchy Negotiation	355
<i>Dominance Theory</i>	360
<i>Social Attention-Holding Theory</i>	362
<i>Indicators of Dominance</i>	364
■ BOX 12.2: Facial Dominance	367
<i>Self-Esteem as a Status-Tracking Mechanism</i>	369
<i>Strategies of Submissiveness</i>	371
Summary	374
Critical Thinking Questions	375
Suggested Readings	376

PART 6: AN INTEGRATED PSYCHOLOGICAL SCIENCE

13. Toward a Unified Evolutionary Psychology	378
Evolutionary Cognitive Psychology	379
<i>Attention and Memory</i>	381
<i>Problem Solving: Heuristics, Biases, and Judgment under Uncertainty</i>	383
<i>The Evolution of Language</i>	388
<i>The Evolution of Extraordinary Human Intelligence</i>	390
Evolutionary Social Psychology	393
<i>Capitalizing on Evolutionary Theories about Social Phenomena</i>	394
<i>The Evolution of Moral Emotions</i>	395
<i>The Return of Group Selection as Multilevel Selection Theory</i>	397
Evolutionary Developmental Psychology	398
<i>Theory of Mind Mechanisms</i>	399
<i>Life-History Strategies</i>	400
Evolutionary Personality Psychology	402
<i>Alternative Niche Picking or Strategic Specialization</i>	403
<i>Adaptive Assessment of Heritable Qualities</i>	403
<i>Frequency-Dependent Adaptive Strategies</i>	404
Evolutionary Clinical Psychology	407
<i>Causes of Mechanism Failure</i>	407
<i>Evolutionary Insights into Problems Erroneously Thought to Be Dysfunctions</i>	408

Evolutionary Cultural Psychology	410
<i>Evoked Culture</i>	411
<i>Transmitted Culture</i>	413
<i>The Evolutionary Psychology of Religion</i>	415
<i>The Evolution of Art, Fiction, Movies, and Music</i>	416
Toward a Unified Psychology	418
Critical Thinking Questions	419
Suggested Readings	420
 Bibliography	421
Credits	463
Index	470