

## Brief Table of Contents

PREFACE	xxix	
ACKNOWLEDGEMENTS	xxxii	
Chapter 1	EVOLUTIONARY BACKGROUND OF BIOSOCIAL INTERACTIONS	1
Chapter 2	INDIVIDUAL VARIATION AND INDIVIDUALISM	53
Chapter 3	AGE VARIATION AND AGEISM	123
Chapter 4	SEXUAL VARIATION AND SEXISM	183
Chapter 5	FAMILY VARIATION AND FAMILISM	253
Chapter 6	REPRODUCTIVE VARIATION AND PRO/ANTI-NATALISM	313
Chapter 7	SOCIAL CLASS VARIATION AND CLASSISM	375
Chapter 8	RACIAL VARIATION AND RACISM	437
Chapter 9	INTERGENERATIONAL VARIATION AND DYSGENISM	503
Chapter 10	ETHICAL AND POLICY CONSIDERATIONS REGARDING THE BIOSOCIAL FUTURE OF HUMANKIND	557
NAME INDEX	621	
SUBJECT INDEX	661	

# Detailed Table of Contents

List of Tables	xxi
List of Figures	xxiii
Preface	xxix
Acknowledgements	xxxii

## CHAPTER 1: EVOLUTIONARY BACKGROUND OF BIOSOCIAL INTERACTIONS

INTRODUCTION	3
THE BIOLOGICAL AND CULTURAL EVOLUTION OF HUMANKIND	4
A BRIEF HISTORY OF THE STUDY OF BIOSOCIAL INTERACTIONS	7
THE STUDY OF THE BIOLOGICAL EVOLUTION OF SOCIALITY	10
The evolution of social behaviour	14
The recent controversy about sociobiology	19
SIGNIFICANCE FOR THE SOCIAL AND BEHAVIOURAL SCIENCES	26
FACTS AND VALUES IN BIOSOCIAL INTERACTIONS	27
The evolutionary origin and function of ethics	28
The 'Is/ought' controversy	32
THE SOCIAL BIOLOGY OF MODERNISATION	33
The major types of biosocial variation	36
The major biosocial challenges in modern culture	38
<i>Individual variation and 'individualism'</i>	40
<i>Age variation and 'ageism'</i>	40
<i>Sexual variation and 'sexism'</i>	41
<i>Family variation and 'familism'</i>	41
<i>Reproductive variation and 'pro/anti-natalism'</i>	41
<i>Social class variation and 'classism'</i>	42
<i>Racial variation and 'racism'</i>	42
<i>Intergenerational variation and 'dysgenism'</i>	43
<i>Policy implications</i>	43
REFERENCES	43

**CHAPTER 10: ETHICAL AND POLICY CONSIDERATIONS  
REGARDING THE BIOSOCIAL FUTURE OF HUMANKIND**

INTRODUCTION	559
BASIC ETHICAL OPTIONS RELEVANT FOR THE BIOLOGICAL FUTURE OF THE HUMAN SPECIES	559
Intervention <i>versus</i> non-intervention	560
Quality <i>versus</i> quantity	562
Equality <i>versus</i> inequality	563
Cooperation <i>versus</i> competition	564
Out-group <i>versus</i> in-group	565
Intergenerational <i>versus</i> intragenerational care	566
COMMON FEATURES AND CHALLENGES OF BIOSOCIAL SOURCES OF VARIATION IN MODERN SOCIETY	567
ADAPTIVE REQUIREMENTS FOR SUSTAINED AND SUSTAINABLE FURTHER PROGRESS	569
Individual variation	569
<i>Difference ≠ inequality</i>	569
<i>Adjusting individual aspirations to societal demands</i>	572
Age variation	572
<i>Active ageing – sense of reality or lip service?</i>	573
<i>Combatting ageism – adapting to ageing</i>	574
<i>Increasing age at retirement</i>	575
<i>Varying age at retirement</i>	576
<i>Death control</i>	577
Sexual variation	577
<i>Reconciliation of productive and reproductive functions</i>	578
<i>Empowerment of women</i>	579
<i>Mastering male competitive behaviour</i>	581
Family variation	582
Reproductive variation	583
<i>Policy implications regarding fertility control</i>	584
<i>Policies regarding contraception</i>	584
<i>Policy implications regarding abortion</i>	585
<i>Policy implications regarding fertility</i>	586
<i>Policy goals regarding fertility</i>	586
<i>Feasibility of policy measures regarding fertility</i>	587
<i>Policy measures for redressing fertility at or around replacement level</i>	588
<u>Rebalancing individual and societal values with</u>	
<u>respect to intergenerational continuity</u>	589
<u>Rethinking the entire life course perspective regarding</u>	
<u>education, employment and retirement</u>	589
Within-population group variation	592
Inter-population variation	593
<i>Reducing between-group inequalities</i>	593

<i>Combating the in-group/out-group syndrome</i>	595
<i>Exposing the false notion of multiculturalism</i>	596
Intergenerational variation	597
<i>Euphenic engineering</i>	597
<i>Eugenic engineering</i>	598
<i>Biotechnology</i>	599
<i>Genetically differential demographic behaviour</i>	600
<u>Individual/family oriented eugenics</u>	600
<u>Population oriented eugenics</u>	601
<u>How to achieve differential reproduction?</u>	605
THE FAR FUTURE	606
Evolutionary extinction	608
Evolutionary regression	609
Evolutionary stabilisation	609
Evolutionary progression	609
REFERENCES	611
NAME INDEX	621
SUBJECT INDEX	661

## CHAPTER 2: INDIVIDUAL VARIATION AND INDIVIDUALISM

INTRODUCTION	55
EVOLUTIONARY BACKGROUND	55
Some basic genetic concepts	55
The genetic unique identity of the individual	57
Evolutionary mechanisms and individual variation	59
<i>The Hardy-Weinberg law</i>	59
<i>Mutation</i>	61
<i>Selection</i>	61
<i>Genetic drift</i>	62
<i>Genetic migration</i>	62
<i>Partner choice</i>	63
The level of selection: individual or group selection?	64
GENETIC AND ENVIRONMENTAL CAUSES OF INDIVIDUAL VARIATION	66
The obsolete nature-nurture discussion	67
Measuring the relative impact of genetic and environmental factors	68
<i>The polygenic inheritance system</i>	69
<i>Dissecting the variance of quantitative traits</i>	72
Two sensitive matters: IQ and criminality...	76
<i>The fractioning of IQ</i>	76
<i>Defining and measuring dimensions of cognitive abilities</i>	77
<i>Heritability of intelligence</i>	78
<i>The role of environmental factors in the development of intelligence</i>	82
<i>Criminal behaviour</i>	85
<i>Genetics and criminality</i>	86
<i>The neurosciences and delinquency</i>	88
<i>Evolutionary biology and antisocial behaviour</i>	90
<i>Concluding considerations concerning biology and crime</i>	94
BIOLOGICAL SOURCES OF INDIVIDUAL VARIATION	95
General variation	95
<i>Normality versus abnormality</i>	96
<i>General variation within the 'normality' range</i>	97
Age variation	97
Sexual variation	98
Racial variation	99
INDIVIDUAL-SOCIETAL INTERDEPENDENCY	99
The ontogenetic interdependency between individuals	100
The genetic interrelationship between individual and population	101
Individual competition versus social cooperation	103
INDIVIDUALISM IN MODERN SOCIETY	106
REFERENCES	109



## CHAPTER 3: AGE VARIATION AND AGEISM

INTRODUCTION	125
GROWTH AND DEVELOPMENT	126
Evolutionary background	127
Secular growth acceleration	129
The increasing gap between biological maturation and social maturity	130
AGEING AND SENESCENCE	131
Evolutionary background	134
<i>The evolutionary theory of senescence</i>	134
<i>Population genetic mechanisms of the evolution of senescence</i>	135
<i>Brain development and the evolution of the lifespan</i>	137
Longevity and ageing/senescence	139
<i>From a concave to a convex survival curve</i>	139
<i>From curve squaring to life extension?</i>	143
Demographic implications of ageing	146
<i>Population greying</i>	147
<i>Population dejuvenation</i>	148
Societal implications of individual and population ageing	149
<i>Attitudinal ambiguities</i>	150
<i>The expected increasing elderly dependency burden</i>	152
<i>The expected growing need for health and welfare care</i>	153
<i>Labour shortage</i>	154
<i>Intergenerational relations</i>	154
<i>Social differentials in longevity</i>	156
DEATH	156
The biological meaning of death	157
The prolongation of the dying process	157
Death control	158
<i>Palliative care</i>	160
<i>Euthanasia</i>	161
<i>Definition</i>	161
<i>Legislation</i>	162
<i>Attitudes</i>	162
<i>Palliative sedation versus euthanasia</i>	164
AGEISM	164
Ageist attitudes and behaviour towards seniors	165
Social exclusion of seniors	165
Increasing gap between social and biological ageing in modern culture	166
AGEING AND AGEISM IN EVOLUTIONARY PERSPECTIVE	167
REFERENCES	170

## CHAPTER 4: SEXUAL VARIATION AND SEXISM

INTRODUCTION	185
EVOLUTIONARY ORIGINS OF SEXUAL VARIATION	186
Sexual selection	186
Feminisation of the human male	188
Sexual evolution of the human female	190
Evolution of sexual steering	191
Explanation of human sexual dimorphism	192
ONTOGENETIC DETERMINANTS OF SEXUAL VARIATION	193
Sex and gender identity/role	193
Socially important aspects of sexual determination and differentiation	196
MAJOR SOCIALLY RELEVANT CHARACTERISTICS OF HUMAN SEXUAL DIMORPHISM	199
Mind	200
Body build	204
Genital sexuality	205
Reproduction	207
Health	208
OTHER SEXUALLY DIFFERENTIAL BEHAVIOURAL FEATURES	210
Crime	210
Homosexuality	211
<i>Proximate causes of homosexuality</i>	212
<i>Endocrinological findings</i>	213
<i>Neurological findings</i>	214
<i>Genetic findings</i>	214
<i>Evolutionary explanations</i>	215
<i>Homophobia</i>	218
<i>The future of homosexuality</i>	219
Sex-related social differences	220
Sexism	223
<i>Sexist ideologies</i>	224
<i>Sexism, sexual emancipation, and science</i>	225
<i>Female social inferiority versus biological superiority: a paradox?</i>	229
<i>Feminism and masculism</i>	230
MALADAPTATION OF SEXUAL DIMORPHISM IN MODERN CULTURE	235
REFERENCES	239

## CHAPTER 5: FAMILY VARIATION AND FAMILISM

INTRODUCTION	255
BIOLOGICAL ORIGINS AND FUNCTIONS OF THE FAMILY	256
Parental investment in slowly-maturing offspring	257
The origin and evolution of love	258
FAMILIES IN MODERN CULTURE	261
Recent trends in family (related) behaviour	261
Background of the modern family transition	264
Determinants of recent family changes	266
PARTNERSHIP IN MODERN CULTURE	267
Partner choice	267
<i>Preferred and selected partner features</i>	268
<i>Good genes theory</i>	268
<i>Parental investment theory</i>	269
<i>Reproductive value theory</i>	269
<i>Paternity confidence theory</i>	273
<i>Combined partner features</i>	274
<i>Mate selection</i>	274
<i>Sex assortment</i>	276
<i>Kin assortment</i>	276
<i>Assortative mating in general</i>	280
<i>Types of partnership</i>	282
<i>Single partnership</i>	283
<i>Multiple partnerships</i>	284
Dynamics of partnership	286
Causes and consequences	287
THE FUTURE OF THE FAMILY	290
Disappearance of the family	291
Back to the traditional family?	293
Modern family variation	294
What about the more distant future?	299
REFERENCES	301



## CHAPTER 6: REPRODUCTIVE VARIATION AND PRO/ANTI-NATALISM

INTRODUCTION	315
THE EVOLUTIONARY BACKGROUND OF HUMAN REPRODUCTIVE BEHAVIOUR	315
General evolutionary trends with respect to reproduction	315
Maximisation of inclusive fitness	316
The paradox between maximisation of inclusive fitness and the demographic transition	317
<i>Explanations for the paradox</i>	319
<i>Changed relations between phenotypic and genotypic fitness         in modernisation</i>	321
THE IMPACT OF MODERNISATION ON HUMAN REPRODUCTION	324
Sexual maturation	324
Pair bonding	326
Desired fertility / Childbearing motivation	326
Coital behaviour	328
Fecundity	329
<i>Proceptive behaviour</i>	330
<i>Contraceptive behaviour</i>	331
<i>The contraceptive transitions in modern culture</i>	331
<i>Effects of the second contraceptive transition</i>	334
Pregnancy	336
<i>Effects of medical interventions</i>	337
<i>Spontaneous and induced abortion</i>	338
Delivery and birth	339
Birth interval	340
Menopause	341
Sterility	343
Fertility	344
<i>Fertility at the family level</i>	345
<i>Fertility at the population level</i>	347
<i>Below-replacement fertility</i>	347
<u>Population dejuvenation</u>	351
<u>Population decline</u>	352
<i>Qualitative effects of the new fertility regime</i>	354
Parenting	357
<i>Evolutionary background: increased parental investment</i>	357
<i>Parenthood in modern culture</i>	358
PRO- AND ANTI-NATALISM	359
REFERENCES	361

## CHAPTER 7: SOCIAL CLASS VARIATION AND CLASSISM

INTRODUCTION	377
THE EVOLUTIONARY BACKGROUND OF WITHIN-POPULATION GROUP VARIATION	379
HISTORICAL THEORIES ABOUT BIOSOCIAL INEQUALITIES	380
The anthropo-sociological school of thought	381
Social Darwinism	382
Marxist biological doctrine	383
THE SOCIAL-BIOLOGICAL APPROACH OF BIOSOCIAL INTERACTIONS	385
Social assortment and social selection	385
Environmental influences	390
Genetic-environmental covariance	391
SOCIAL STRATIFICATION AND BIOLOGICAL VARIATION	392
Body size and body build	392
Growth and maturation	393
Health and longevity	393
Measured intelligence	394
CAUSES OF INTERRELATIONS BETWEEN BIOLOGICAL VARIATION AND SOCIAL STRATIFICATION	395
Environmental influences linked to social status differences	395
Social assortment: social mobility and biological variation	397
<i>Empirical findings about the relationship between social mobility and biological variation</i>	397
<i>Explanations of the relationship between social mobility and biological variation</i>	403
GENETICS AND SOCIAL MOBILITY	406
The assortment of phenotypes and genotypes	407
Implications of segregation and recombination of genes for social mobility	408
The role of mate choice in the social assortment of biological characteristics	416
The controversy over 'The Bell Curve'	416
EGALITARIANISM VERSUS MERITOCRACY?	419
REFERENCES	421

## CHAPTER 8: RACIAL VARIATION AND RACISM

INTRODUCTION	439
THE EVOLUTIONARY BACKGROUND OF BETWEEN-POPULATION VARIATION	443
Splitting of populations	444
Fusion	445
Adaptation	448
BIOLOGICAL BETWEEN-POPULATION DIFFERENCES	451
Behavioural-genetic between-population differences	453
<i>Jensen's 'default hypothesis' of between-population differences in cognitive ability</i>	456
<i>The 'culture-only' hypothesis of between-population differences in cognitive ability</i>	460
<i>Drawing conclusions about the genetic-environmental controversy over between-population differences in cognitive ability</i>	463
<i>Evolutionary explanations for the origin of between-population differences in cognitive ability</i>	465
IN-GROUP/OUT-GROUP BEHAVIOUR	466
Typology	466
The cultural history of racism, ethnocentrism, and xenophobia	468
Behavioural patterns related to in-group/out-group relations	470
<i>Explanations for sociological dominant/subordinate relations</i>	471
<i>Inferior and superior populations?</i>	472
EVOLUTIONARY EXPLANATIONS FOR THE IN-GROUP/OUT-GROUP SYNDROME	473
Kin selection theory	474
Reciprocity theory	475
Similarity theory	476
Selfish gene theory as basis for in-group/out-group antagonisms	477
Balance of power theory	478
In-group/out-group syndrome: maladapted to the novel environment of modern culture.	479
CULTURAL AUTONOMISM, INTEGRATIONALISM, OR MULTICULTURALISM?	480
Cultural autonomism/independence for historical ethnic components	481
Integration of recent immigrant groups	482
Multiculturalism: fact or fiction?	484
THE FUTURE OF BETWEEN-POPULATION DIFFERENCES AND RELATIONS	487
REFERENCES	488

## CHAPTER 9: INTERGENERATIONAL VARIATION AND DYSGENISM

INTRODUCTION	505
TIME DIMENSION	505
HERITAGE OF THE PAST	506
Biological heritage	507
Cultural heritage	507
<i>Conflicting and competing value and norm systems</i>	508
<i>Emergence of modern science</i>	509
<i>Effects of modern culture on intergenerational variation</i>	509
<i>Phenotypic effects</i>	509
<i>Genetic effects</i>	510
<i>Contra-selective effects of modern culture</i>	513
<i>Contraselective effects of replacement therapies</i>	514
<i>Contra-selective effects of differential reproduction with respect to intelligence</i>	515
CRUCIAL CULTURAL DETERMINANTS FOR THE FUTURE	520
Future scientific and technological developments	520
Ethical goals for the future	520
<i>Euphenic goals</i>	523
<i>Eugenic goals</i>	523
<i>The ultimate aim of eugenics: carrying forward the hominisation process</i>	524
<i>Rationale for the preservation and the advancement of human-specific characteristics</i>	527
<i>General societal conditions for implementing a eugenic programme</i>	529
<i>Scientific and social dimensions of eugenics</i>	530
<i>Broad and narrow eugenics</i>	531
<i>Eugenic target levels</i>	531
<i>Eugenic benefits and costs</i>	532
<i>Eugenic fallacies of the past</i>	534
ETHICAL CONCERNS	538
Ethical concerns about eugenics in general	538
Ethical issues in eugenic practice	541
Attitudes towards eugenics	544
REFERENCES	545