

Contents

1	Setting the Stage for Reflecting on a Universal Morality	1
1.1	Evolution Science	1
1.1.1	The Darwinian Revolution	2
1.1.2	The Modern Evolutionary Synthesis	3
1.1.3	The Molecular-Genetic Revolution	5
1.1.4	The Second Darwinian Revolution	5
1.2	The Hominisation Process	10
1.3	The Modernisation Process	14
1.4	Confronting Hominisation with Modernisation	17
1.5	The Time Dimension: The Third Millennium	19
2	Origin and Evolution of Morality	21
2.1	Evolutionary Mechanisms Producing Predispositions to Morality	21
2.1.1	Mutation	22
2.1.2	Selection	24
2.1.3	Migration	42
2.1.4	Genetic and Cultural Drift	42
2.1.5	Partner Choice	43
2.2	Evolutionary Background of Morality	44
2.2.1	A Brief Review of Evolutionary Ethics Theory	45
2.2.2	Biological Bases of Morality: Natural Needs and Drives	59
2.2.3	Evolutionary Causes of Human Morality	61
2.2.4	Major Stages in the Evolution and Historical Development of Morality and Content of Moral Systems	66
2.2.5	Biological Determinants of Moral Behaviour	74
2.2.6	Why Variability in Moral Behaviour?	81
2.2.7	Moral Ambiguity of the Evolutionary Mechanism	84

3 Adaptive and Maladaptive Features of Religious Beliefs as Sources of Morality	87
3.1 Introduction	87
3.2 Notions and Concepts	88
3.2.1 Religion	88
3.2.2 God	89
3.2.3 Religiosity	90
3.2.4 Spirituality	92
3.2.5 Relations Between Religiosity, Spirituality and Morality	93
3.3 Origin and Evolution of Religion/Religiosity/Spirituality	96
3.3.1 Earliest Signs of Religion/Religiosity/Spirituality	97
3.3.2 Kinship-Based/Tribal Religions	98
3.3.3 Organised or World Religions	98
3.4 Some Anthropological Questions and Paradoxes About Religions as Sources of Morality	110
3.5 Biological Determinants of Religiosity and Spirituality	113
3.5.1 Genetics of Religiosity and Spirituality	113
3.5.2 Neurological Basis of Religiosity and Spirituality	116
3.6 Evolutionary Advantages and Disadvantages of Religion	120
3.6.1 Proximate Advantages of Religion in the Pre-scientific Era	121
3.6.2 Ultimate Advantages of Religion in the Pre-scientific Era	128
3.6.3 Place of Religious Beliefs and Religions in Modernisation	129
3.6.4 Is God Redundant?	135
3.7 Science and Religion	137
3.7.1 Creationism, Creation Science and Intelligent Design	144
3.7.2 Challenges for Replacing Religion by Science as the Source of Morality	153
4 Challenges of Major Secular Ideologies	155
4.1 Introduction	155
4.1.1 Secularisation	156
4.1.2 Atheism	158
4.2 The Major Secular Ideologies of Modernity	159
4.2.1 Liberalism	159
4.2.2 Socialism	165
4.2.3 Feminism	169
4.2.4 Nationalism	175
4.2.5 Humanism	177
4.2.6 Ecologism	182

4.3	Constraints of Secular Ideologies as Sources of Universal Morality	185
4.3.1	The Fragmented Nature of Secular Ideologies.	186
4.3.2	The Short-Term Approach of Secular Ideologies	187
4.3.3	The Macro-level Approach of Secular Ideologies	187
5	Evolution-Based Universal Morality	189
5.1	Need for a Universal and Inclusive Morality	189
5.2	Rationale for Evolution-Based Ethical Choices.	192
5.3	Evolution-Based General Ethical Pursuits.	195
5.3.1	Ethical Prerequisites.	195
5.3.2	The Main Aim: The Phylogenetic Enhancement of the Hominisation Process	202
5.3.3	General Ethical Derivations from a Progressing Hominisation.	231
5.4	Evolutionary-Based Specific Ethical Challenges Related to Sources of Biological Variability	239
6	Evolution-Based Ethical Challenges Related to Individual Variability	241
6.1	Introduction	241
6.2	Age Variability.	242
6.2.1	Evolutionary Background of Growth and Senescence.	242
6.2.2	Developments in Modernity Regarding Age Variability	243
6.2.3	Ethical Reflections Regarding Age Variability in Modernity	247
6.3	Sex Variability	255
6.3.1	Evolutionary Background of Sex Variability.	255
6.3.2	Changes of Sex Relations in Modernity	263
6.3.3	Ethical Reflections Regarding Sex Variability in Modernity	270
6.4	Individual Variability in General	274
6.4.1	Evolutionary Background of Individual Variability.	275
6.4.2	Developments in Modernity Regarding Individual Variability.	276
6.4.3	Ethical Reflections Regarding Individual Variability.	280
6.5	Interpersonal Relations	285
6.5.1	Evolutionary Background of Interpersonal Relations.	285
6.5.2	Interpersonal Relations in Modernity.	292
6.5.3	Ethical Reflections Regarding Interpersonal Relations.	301
7	Evolution-Based Ethical Challenges Related to Group Relations.	305
7.1	Introduction	305
7.2	Kinship and Family	306
7.2.1	Evolutionary Background of Family Variability	306

7.2.2	Family Variability in Modernity	309
7.2.3	Ethical Reflections About Family Variability in Modernity	312
7.3	Social Status Hierarchies	315
7.3.1	Evolutionary Background of Social Status Hierarchies	315
7.3.2	Developments in Modernity Regarding Social Status Allocation	317
7.3.3	Ethical Reflections Regarding Social Status Acquisition	319
7.4	Race, Ethnicity, Worldview, and Political Conviction	322
7.4.1	Evolutionary Background of In-Group/Out-Group Relations	323
7.4.2	Developments in Modernity of In-Group/Out-Group Relations	326
7.4.3	Ethical Reflections About In-Group/Out-Group Relations	326
7.5	Competition and Cooperation Between States	328
7.5.1	Evolutionary Background of Relations Between States	328
7.5.2	Developments of Relations Between States in Modernity . . .	331
7.5.3	Ethical Reflections about Relations between States	332
8	Evolution-Based Ethical Challenges Related to Intergenerational Replacement	337
8.1	Introduction	337
8.2	Quantitative Issues Regarding Reproductive Behaviour	338
8.2.1	Evolutionary Background of Population Growth	338
8.2.2	Demographic Developments in Modernity	340
8.2.3	Ethical Reflections Regarding Population Growth	348
8.3	Qualitative Issues Regarding Reproductive Behaviour	357
8.3.1	Evolutionary Background of Qualitative Intergenerational Changes	358
8.3.2	Qualitative Reproductive Developments in Modernity	358
8.3.3	Ethical Reflections Regarding Qualitative Reproductive Issues	371
8.4	Complementarity of Quantitative and Qualitative Reproductive Goals	393
9	Conclusions and Final Reflections	395
9.1	Ideological Conflicts in the Modern World and the Need for a Universal Ethic	395
9.2	Evolution-Based General Ethical Goals for the Future	396
9.2.1	Preservation of Ecological Sustainability	397
9.2.2	The Cultural Furtherance of the Modernisation Process . . .	397
9.2.3	Phylogenetic Enhancement of the Hominisation Process . . .	398

9.2.4	The Ontogenetic Development of Human-Specific Potentialities	398
9.2.5	The Promotion of Quality of Life	398
9.2.6	The Promotion of Equity	399
9.2.7	The Necessary Shift from Competitive Towards Cooperative Behaviour	399
9.2.8	The Promotion of Universalism	399
9.3	Evolution-Based Specific Ethical Challenges	400
9.4	Reconciling Religious and Secular Ideologies and Evolutionary Goals	400
Bibliography		409

Dealing with the ethical challenges of humankind at the turn of the twenty-first century, and safely guiding the human species through new subsequent stages of biological evolution and adaptation and cultural development, requires rethinking of our values and norms in a longer-term perspective and at the planetary level. Therefore, this chapter starts by discussing the meaning of evolution and presenting an overview of the major stages of the development of evolution science—the Darwinian revolution, the Modern Evolutionary Synthesis, the molecular-genetic revolution and the Second Darwinian Revolution. Next, the two major developmental processes, the humankind process and the modernisation process, are addressed, which are considered by the authors to be of pivotal importance for the future of human identity. Finally, by confronting the humankind and modernisation processes, this chapter sets the stage for revealing the necessary changes in values and norms in view of adapting to further progressing modernisation and evolving toward higher levels of humankind.

1.1 Evolution Science

Humans have always, and everywhere, raised questions about the origin and meaning of life—in particular human life—as well as about its causes.¹ Since the eighteenth century a process developed through which the traditional vision—the supernaturally, spiritually evoked creationism—was gradually ousted by the

¹ Sorul (1979) Learning (2009).