

Contents

Acknowledgments	XI
INTRODUCTION: THE EVOLUTIONARY CHALLENGE	1
At the cutting edge.....	1
From tipping points to transformation.....	3
Changing the world	4
The design of this book.....	8
Part 1: Collapse — the dominant trend	
CHAPTER 1: OVERSHOOT	13
The debate over limits to growth.....	13
Growing populations.....	15
Growing consumption	18
Available global resources	20
Ecological footprints.....	23
Overshoot.....	27
CHAPTER 2: GROWING GLOBAL CRISES	29
Vital signs.....	29
Growing energy shortages	30
Increasing climate change	35
Growing water shortages	41
Growing food shortages	44

Accelerating rates of extinction.....	51
Growing crises.....	56
Rich world, poor vision.....	59
Spaceship Earth.....	61
CHAPTER 3: THE UNSUSTAINABLE GLOBAL CULTURE.....	63
The fundamental problem.....	63
Greeds not needs.....	64
Socially structured behaviors.....	65
Fear and addiction.....	66
Real and artificial scarcity.....	69
Structural inequality and structural violence.....	71
Selfishness and exploitation.....	74
Hierarchy and discrimination.....	75
Cultures of violence.....	77
War and domination.....	78
Cultural destruction.....	83
How much is enough?.....	84
CHAPTER 4: THE NEED FOR A NEW MODEL.....	87
The historical expansion of the industrial system.....	87
The evolution of the industrial system.....	94
The origins of the industrial worldview.....	95
The development of industrial social structures.....	95
The development of industrial technologies.....	97
Designed for constant growth.....	98
An obsolete model.....	99
CHAPTER 5: CASCADING CRISES AND SYSTEM FAILURE.....	103
Why earlier civilizations have collapsed.....	103
The causes of collapse.....	104
The loss of resilience.....	106
Parameters and perfect storms.....	107
The consequences of system failure.....	110
Why we can't see the dangers.....	112
Part 2: Transformation — the emerging trend	
CHAPTER 6:	
SUSTAINING DEVELOPMENT OR DEVELOPING SUSTAINABILITY?.....	117

What is sustainable development?	117
What are biophysical needs?	120
What are human needs?	121
Genuine Progress Indicators	122
The requirements of a sustainable societal system	126
CHAPTER 7: TRANSFORMATIVE MATERIAL TECHNOLOGIES	129
New scientific paradigms	129
The emerging worldview	131
The promise of new technologies	132
Renewable energies	134
Conservation	136
Nanotechnologies, biotechnologies and biomimicry	137
Decentralized, distributed production	141
Computers and the Internet	142
Whole-systems design	142
Ecodesign	145
The limits of market forces	146
Planning for sustainable development	148
Flipping the paradigm	150
The evolutionary race	152
CHAPTER 8: TRANSFORMATIVE IDEAS AND SOCIAL MOVEMENTS	155
History is now	155
The process of social transformation	156
Growing awareness and rising expectations	161
Changing global values	162
The power of social movements	167
The emerging integral worldview	170
The spread of deep democracy	173
CHAPTER 9: CONSTRUCTIVE AND DESTRUCTIVE RESPONSES TO CRISES	175
Forecasting the future	175
Probable responses to growing energy shortages	178
Probable responses to growing water and food shortages	179
Probable responses to growing economic crises	183
Probable responses to conflicts over scarce resources	185
Probable responses to climate change and the loss of biodiversity	186

CHAPTER 10: FUTURE SCENARIOS	189
The two main trends — collapse and transformation	189
The three possible future scenarios	191
The strengths and weaknesses of the global system	192
Constructive and destructive interventions	200
Scenario 1: Business as usual	203
Scenario 2: Adjusting the existing system	204
Scenario 3: Transformational change	206
The dynamics of societal change	206
Possible time frames for future scenarios	208
The risks and costs of action versus inaction	210
Constructive change is possible	211
CHAPTER 11: THE DESIGN OF A FLOURISHING EARTH COMMUNITY	213
Health is wholeness	213
Conscious self-organization	214
Governance and peace	216
Individual and societal health	219
The culture pattern of a sustainable civilization	223
CHAPTER 12. TOOLS FOR TRANSFORMATION	225
The power of love	225
The moral imperative	226
Helping people become engaged	227
The Earth Charter	228
Building global agreement	229
Supporting constructive change	232
Include and transcend	233
Truth, trust and transformation	235
Courage and commitment	237
Supporting evolution: the magical formula	238
Love and faith: the gift of our ancestors	241
Endnotes	243
Index	291
About the Author and Illustrator	307