



# CONTENTS

**xv ACKNOWLEDGMENTS**

**xix PREFACE: EVOLUTIONARY REFLECTIONS**

xix A Meta-Framework for the City as a Whole System

xx The New Science of Human Cities

xxi Integrating Multiple Disciplines and Sciences

**1 1 – ECOSPHERE INTELLIGENCE: LOCATING PLACES FOR THE HUMAN HIVE**

1 Opportunities and Limitations

5 Lessons from Other Species

7 Location, Location, Location

8 Seeking Resilience

10 Applying the Eco-footprint

13 Relating the Exterior Environment to Interior City Life

17 Growing Capacity versus Outgrowing Resilience

18 The Symbiotic Relationship of the City to Its Ecoregion

21 Conclusion

22 Questions

**x ♦ Integral City**

**23 2 – EMERGING INTELLIGENCE: SEEING WHOLENESS  
IN THE HUMAN HIVE**

- 23 Why See the City as a Whole System?
- 26 The City Has Aliveness
- 27 Holons Are Wholes
- 28 The City Survives
- 29 The City Is a Container with Shape-shifting Boundaries
- 30 The City Is a Dissipative Structure
- 31 The City Is a Complex Adaptive System
- 33 The City Adapts to Its Environment
- 36 Adaptiveness Roles: Conformity Enforcers, Diversity Generators,  
Inner Judges, Resource Allocators
- 37 The City Regenerates
- 38 Cycles of Renewal
- 42 Each Scale and Stage of Development Has Recurring Cycles
- 43 Sustaining the Whole City
- 46 Emergence: Seeing New Capacities in the City
- 48 Morphic Fields in the City
- 50 Conclusion
- 50 Questions

**51 3 – INTEGRAL INTELLIGENCE: CHARTING PATTERNS  
OF THE HUMAN HIVE**

- 51 Integrating the Qualities That Create Optimal Conditions for Human Habitats
- 52 What Are Integral Qualities of Human Habitats?
- 56 How Do You Sustain an Integral City?
- 58 Are We Losing Touch with Our Cities' In-formation?
- 60 Mapping the Essential Patterns of City Life
- 60 Map 1: The Four-quadrant Eight-level Map of Reality
- 65 Map 2: The Nested Holarchy of City Systems
- 66 Map 3: The Scalar Fractal Relationship of Micro, Meso and Macro  
Human Systems
- 67 Map 4: The Complex Adaptive Structures of Change
- 69 Combining the Maps into a GIS System

- 70 Going Beyond the Attainment of Quality of Life to a  
Vision of City of the Future
- 71 Adding to the Value of the Earth
- 72 Conclusion
- 72 Questions

**73 4 – LIVING INTELLIGENCE: LIVING AND DYING IN THE HUMAN HIVE**

- 73 What Is Life? What Is Death?
- 75 Cities Are Concentrators of Complex Wealth
- 79 Human Life Cycles: They Will Always Be With Us
- 90 Fractals Reveal Recurrent Lifecycles, Stages and Spirals in Cities
- 94 The City Field Has Observable Change States
- 96 Conclusion
- 97 Questions

**99 5 – INNER INTELLIGENCE: CONSCIOUS CAPACITY IN THE HUMAN HIVE**

- 99 Consciousness: Fundamental to the Universe
- 100 Subjective Well-being Unfolds
- 101 Value of Examining a Single Life
- 102 Mapping Intelligence Capacities
- 103 Human Emergence: Levels, Lines, Types, States
- 105 Purpose and Goals
- 111 Values Vision Mission
- 112 Leadership
- 115 Leaders to the Power of 8: Build on Evolutionary Lessons, Catalyze  
Interconnectedness, Create Opportunities for Well-being
- 119 Designing Appropriate Learning and Education Systems
- 123 Conclusion
- 124 Questions

**125 6 – OUTER INTELLIGENCE: EMBODYING RIGHT ACTION  
IN THE HUMAN HIVE**

- 125 Mapping Biophysical Necessities for Well-being Basics: Air, Water, Food,  
Clothing, Shelter

**xii ♦ Integral City**

127	Conditions of Life
128	Biophysical Demographics
130	Managing Energy
130	Dissipative Structures: Processors, Patternizers, Structurizers
133	The Body as the City, the Body of the City, the Body in the City
135	Senses in the City: the Roots of Natural Science and Learning
137	Well-being in the City
139	Embodying Intention, Purpose
140	Designing Appropriate Healthcare Systems
144	Culturally Catalyzing Biophysical Potential, Connections, Well-being
146	Conclusion
147	Questions
<b>149</b>	<b>7 – BUILDING INTELLIGENCE: CREATING STRUCTURES THAT FLEX AND FLOW IN THE HUMAN HIVE</b>
149	What You Get Is What You See: Chemistry, Physics, Biology, Architecture and Engineering
150	Structural Systems for Managing Energy, Information, Matter
151	Carrying Capacity and Other Cruel Facts: The Relationship of Built City to Ecoregion
155	Making Visible the Invisible
156	Differentiating Human Social Structures from Artefacts
159	Mapping Infrastructure for Resource Allocation
161	Taking Responsibility for Renewing Resources
163	Wholes, Heaps and Fitness Landscapes: Intentional Design versus Unintended Consequences
165	Manifesting Relationships: What Matters for Humans and Artefacts
167	Structures Hold the Memory of Patterns and Processes
169	Evolving Structures and Infrastructures for Healthy Education, Healthcare, Workplace Facilities
173	Meshworks, Self-organizing Systems and Hierarchies of Complexity
173	Designing Appropriate Governance Systems
177	Conclusion
178	Questions

<b>179</b>	<b>8 – STORY INTELLIGENCE: FEEDING EACH OTHER IN THE HUMAN HIVE</b>
179	The Cadence of the City
181	Relationships: The Bonds of Strength, Resilience and Transformative Potential
183	City Values
185	Adaptive Relationships: Inner Judges, Resource Allocators, Conformity Enforcers, Diversity Generators, Intra-group Tournaments
187	Who Is at the Center of the Universe? Eko, Ethno, Ego, Excel, Equal, Eco, Evo
188	The Blended Family: The Dynamics of Social Holons
190	Mapping Integral Voices: Citizen, City Manager, Civil Society, City Developer
195	Reporting the Voices: The Role of the Media in the City
197	Recreating Cultural Importance
200	Community and Dialogue: Fields of Engagement
203	Communities of Practice: Evolving Cultures for Healthy Education, Healthcare and Workplace Services
206	Conclusion
207	Questions
<b>209</b>	<b>9 – INQUIRY INTELLIGENCE: RELEASING POTENTIAL IN THE HUMAN HIVE</b>
209	The Quest
214	Mapping Gardens, Deserts and New Horizons
216	The Potential
220	Conclusion
220	Questions
<b>221</b>	<b>10 – MESHING INTELLIGENCE: ENABLING ORDER AND CREATIVITY IN THE HUMAN HIVE</b>
221	What Is Meshworking?
223	Who Is Meshworking?
224	Why Is Meshworking Important?
226	Meshworking Enables Emergence in the Human Hive

**xiv ♦ Integral City**

228 Conclusion

228 Questions

**229 11 – NAVIGATING INTELLIGENCE: DIRECTIONAL DASHBOARDS  
FOR THE HUMAN HIVE**

229 Integral Vital Signs Monitors: Living Dashboards for the Human Hive

247 The Real “So What” of IVSM: Making Informed Choices

250 Next Steps for IVSM

250 Learning to Change: How Vital Signs Monitors Inform Us

252 Vital Signs Monitors Enable the Integral City

255 Conclusion

255 Questions

**257 12 – EVOLVING INTELLIGENCES: IMAGINING THE FUTURE  
FOR HUMAN HIVES**

257 Where Did We Start?

258 Where Have We Been?

261 Where Could We Go?

264 How Will We Get There?

270 Conclusion

270 Questions

**271 POSTSCRIPT — APPLIED INTELLIGENCES: RESOURCES FOR THRIVING  
IN YOUR HUMAN HIVE**

271 How Can We Help You?

273 Where to Next?

273 Integral City Book Series

**275 GLOSSARY**

**277 REFERENCES**

**287 INDEX**

**295 ABOUT THE AUTHOR**