Paul F Downton

Ecopolis

Architecture and Cities for a Changing Climate

HOCHSCHULE
LIECHTENSTEIN
Bibliothek

%} Springer

Contents

Illustrations xiii

Foreword xix

Introduction: The City Is My University 1

Part I Propositions, Theory and Practice

I. People, Places and Philosophies 13

1 The Ground Plan 19
1.1 The Idea of Ecopolis 19
1.2 The Ecopolis Propositions 25
1.3 Setting Contexts - Places and People 32

2 An Epistemology for Urban Ecology 41
2.1 An Heuristic Hybrid? 41
2.2 Further Words on Architecture and Ecology 51
2.3 Towards Sustainable Human Ecological Development 55
2.4 Romantic Science 59

3 Architecture, Urbanism and Ecological Perspectives 65
3.1 Points of view 65
3.2 Integration 70
3.3 A Sense of Place 78
3.4 Taking the Long View 83
3.5 Changing Places 85

4 Weavers of Theory 87
4.1 Picture People - Visionaries and Utopians 91
4.2 Process People - Understanding the Nature of Cities 105
4.3 Pattern People - Putting the Pieces Together 127

4.4 Pragmatic People - Getting from 'Here' to 'There' . . . 141
4.5 Principled People . . . 145
4.6 Village People and New Urbanists . . . 148
4.7 Political People - Energy, Structure and Citizenship . . . 152

5 **The Aesthetics of Ecopolis** . . . 159
5.1 Altered States . . . 159
5.2 Diversity of Form and Expression . . . 162
5.3 Appearances *Do* Count . . . 170
5.4 Biophilia . . . 172
5.5 Cultural Filters . . . 176

6 Finding Fractals: Identifying Elements of the Ecocity . . . 179
6.1 Agenda 21, Environment Plans and Sustainability . . . 179
6.2 New Urbanism and Sustainable Houses . . . 182
6.3 Ecocities and Green Urbanism in the U.S.A . . . 184
6.4 EcoUrbanism in Europe . . . 193
6.5 Bits and Pieces in 'Less Developed' Countries . . . 202
6.6 Around the World in Many Ways . . . 205
6.7 South America - 'Ecocity' Curitiba . . . 207
6.8 England's Rural Urbanism . . . 210
6.9 An Ecocity in the Middle East . . . 215
6.10 Ecocities in China . . . 217

7 Building Fractals: Ecopolis Projects in Australia . . . 221
7.1 Ecocity Organisation . . . 221
7.2 Urban Ecology Australia . . . 222
7.3 Fractal 1: The Halifax EcoCity Project . . . 228
7.4 Fractal 2: The Whyalla EcoCity Development . . . 252
7.5 Fractal 3: Christie Walk . . . 279
7.6 Fractal Dreaming . . . 296

Colour Plates . . . 313

Part II Towards a Theoretical Synthesis

II. Rebuilding the Foundations . . . 349

8 Synthesis I: City Ecology . . . 355
8.1 Structureslof Life . . . 356
8.2 The Mindful Organism . . . 370
8.3 The Nature of Cities . . . 374
8.4 Habitats and Design Guidelines for Non-Human Species . . . 378

8.5 *Restore Degraded Land* - Adaptive and Regenerative Urbanism . . . 389
8.6 ***Create Compact Cities*** . . . 395
8.7 ***Provide Health and Security*** . . . 401
8.8 ***Optimise Energy and Resource Use*** . . . 407
8.9 ***Balance Development*** . . . 410

9 Synthesis II: EcoDevelopment . . . 415
9.1 The Power of Limits . . . 415
9.2 Invisible structures . . . 418
9.3 ***Encourage Community*** - Democracy and Citizenship . . . 426
9.4 ***Promote Social Justice and Equity*** . . . 433
9.5 ***Contribute to the Economy*** . . . 440
9.6 *Enrich History and Culture* . . . 444
9.7 ***Fit the Bioregion*** . . . 446

10 Synthesis III: Education, Advocacy and Activism . . . 453
10.1 Agents of Change . . . 453
10.2 Media: Getting the Message Out . . . 455
10.3 Exhibitionism: Ecopolis Now! . . . 457
10.4 Running Barefoot . . . 458
10.5 Education and Community . . . 469
10.6 Thinking Machines . . . 471
10.7 Shadow Plans . . . 475
10.8 . The City as the Basis of Social Action . . . 481
10.9 The Ecopolitan iPod . . . 484
10.10 Sound Bites, Fashion and Cultural Change . . . 488

11 Synthesis IV: The SHED Sustainable Human Ecological Development 491
11.1 Building a SHED . . . 491
11.2 Charter of Calcutta . . . 494
11.3 The Icons . . . 494
11.4 SHED Navigation Matrix, or Concordance . . . 497
11.5 The Seven Steps of SHEDding . . . 498
11.6 The Ecopolis Development Principles . . . 508
11.7 The Frogstick . . . 519

12 Our Cities, Our Selves . . . 535
12.1 The Keys to the^City . . . 535
12.2 Our Cities, Our Selves . . . 538
12.3 Evolutionary Cities . . . 540
12.4 ' After Words . . . 548

APPENDIX 1: My Favourite Thought Experiment 551

APPENDIX 2: Density and Urban Villages 553

APPENDIX 3: City Size: the Case of Somerset and Adelaide 557

APPENDIX 4: Adelaide, Calcutta and the Western Comfort Zone 559

APPENDIX 5: Charter for a New Municipium 561

Acknowledgments 563

Bibliography 567

Index 599