

---

# Contents

---

<b>Introduction</b> . . . . .	ix
<b>Chapter 1. Use of the Ecosystem Concept on the Web</b> . . . . .	1
1.1. For marketing . . . . .	2
1.2. For personal data. . . . .	4
1.3. For services and applications . . . . .	5
1.4. For dynamic interactivity. . . . .	7
1.5. For pictorial analogies . . . . .	8
1.6. For the information and communication sciences . . . . .	12
<b>Chapter 2. Ecosystem Modeling: A Generic Method of Analysis</b> . . . . .	15
2.1. Hypertextual gardening fertilized by the chaos of John Cage . . . . .	16
2.2. An entrepreneurial experience. . . . .	17
2.2.1. Objectives . . . . .	18
2.2.2. Principle of the game. . . . .	18
2.2.3. Motivations . . . . .	19
2.2.3.1. Why model a cognitive ecology? . . . . .	19
2.2.3.2. The relevance of the garden analogy. . . . .	20
2.2.4. Strategic interests and potential benefits . . . . .	23
2.3. The maturation of a research project . . . . .	24
2.3.1. Evaluating index activity . . . . .	24
2.3.2. Folksonomies explorer. . . . .	28
2.3.3. Tweet Palette: Semantic mapping . . . . .	34

---

<b>Chapter 3. Fundamental Principles for Modeling an Existence</b> . . . . .	41
3.1. Key concepts for thinking about knowledge ecosystems . . . . .	42
3.1.1. The noosphere . . . . .	42
3.1.2. Enaction . . . . .	44
3.1.3. Complexity . . . . .	45
3.1.4. Trajective reason . . . . .	46
3.1.5. Agency . . . . .	47
3.2. Spinozist principles for an ethical ontology . . . . .	48
3.2.1. Spinoza: ethical ontology . . . . .	49
3.2.2. Limitations of Spinozism . . . . .	50
3.2.3. Three dimensions of existence and three kinds of knowledge . . . . .	51
3.2.4. Spinozist symbol politics . . . . .	55
3.2.5. Spinozist ethics for the Web . . . . .	57
3.2.6. The ontological principles of Descola . . . . .	58
3.2.7. Principles of ontological matrices . . . . .	59
3.2.8. The Web as analogist ontology . . . . .	63
3.2.9. Principles of computer models . . . . .	67
3.2.10. From Zeno to Turing via Spinoza . . . . .	68
3.2.11. The search for the perfect language . . . . .	74
3.3. Semantic knowledge management . . . . .	77
3.3.1. The boundaries of ontologies . . . . .	77
3.3.2. The semantic sphere IEML . . . . .	78
<b>Chapter 4. Graphical Specifications for Modeling Existences</b> . . . . .	89
4.1. Principles of graphical modeling . . . . .	90
4.1.1. Unified modeling language . . . . .	90
4.1.2. Graphic partitions and diagrams . . . . .	92
4.1.3. Fixed image versus dynamic diagram . . . . .	94
4.2. Semantic maps . . . . .	97
4.2.1. Maps of physical spaces . . . . .	97
4.2.2. Time maps . . . . .	99
4.2.3. Maps of conceptual spaces . . . . .	101
4.2.4. Interpretation maps . . . . .	107
4.3. Graphical modeling rules . . . . .	110
4.3.1. Physical dimensions . . . . .	110
4.3.2. Actors . . . . .	111
4.3.3. Concepts . . . . .	111
4.3.4. Relations . . . . .	112
4.3.5. Calculating the complexity of an ecosystem . . . . .	113

---

<b>Chapter 5. Web Platform Specifications for Knowledge Ecosystems</b> . . . . .	117
5.1. The generic management of resources . . . . .	119
5.1.1. Non-digital resources . . . . .	119
5.1.2. Digital resources . . . . .	122
5.1.3. Management of digital resources . . . . .	131
5.2. Principles for developing a Web ecosystem platform . . . . .	138
5.2.1. Databases as a model of the ecosystem . . . . .	138
5.2.2. Algorithmic platform to manage the ecosystem . . . . .	153
5.2.3. Editorial platform for controlling collaborative practices . . . . .	157
5.2.4. Client applications to explore ecosystem views . . . . .	162
5.2.5. From technical specification to the organization of collective intelligence . . . . .	171
<b>Conclusion</b> . . . . .	173
<b>Appendix</b> . . . . .	185
<b>Bibliography</b> . . . . .	201
<b>Index</b> . . . . .	217