
Contents

Preface	ix
Introduction	xi
Chapter 1. From Information Metabolism to Economic Intelligence	1
1.1. Introduction	1
1.2. Information metabolism according to Timothy Powell	2
1.3. Let us examine this concept in more detail	3
1.4. Organizations and human beings	4
1.4.1. Individuation according to Jung	5
1.4.2. Individuation according to Simondon	6
1.5. Change within organizations via the information function and an epigenetic approach	7
1.6. The zone of proximal development	9
1.7. Conclusion	11
1.8. References	12
Chapter 2. Changing Our Way of Thinking	15
2.1. Plato's cave, or the fight against the world of received ideas.	16
2.2. A society without schools	17
2.3. On the intelligence cycle	18
2.4. Thinking outside the box and the iron cage	19
2.4.1. Thinking outside the box	19
2.4.2. The iron cage	20
2.5. Holistic thinking	21
2.6. Lateral thinking	22

2.7. To unravel Parkinson's law and received ideas	24
2.7.1. Parkinson's law	24
2.7.2. The cost of received ideas	25
2.8. The individual and their behavior	26
2.9. Thinking about the future or a return to future studies	28
2.9.1. General remarks on future studies	28
2.9.2. Foresight in business	30
2.9.3. Regional prospective	34
2.10. Conclusion	37
2.11. References	39
Chapter 3. Innovation	45
3.1. Some definitions	45
3.2. The innovation mechanism	46
3.3. Different types of innovation	48
3.3.1. The development of innovation	48
3.4. Restraints on developing innovation	52
3.5. Science, technology and innovation policies	54
3.5.1. Innovation systems	56
3.5.2. A quick comparison between France and Germany	57
3.5.3. The evolution of innovation policy in the United States	58
3.5.4. Innovation in Asia	60
3.5.5. The European Union and innovation	64
3.5.6. The role of cities in innovation systems	67
3.6. Public innovation policies in France	68
3.6.1. Innovation and territories	69
3.7. Conclusion	70
3.8. References	71
Chapter 4. Formal Information Research	75
4.1. The importance of the time factor in scientific data	76
4.2. Different information typologies	77
4.3. Information research	78
4.4. Research practices: reductionist, holistic	80
4.4.1. The reductionist approach	80
4.4.2. The holistic approach	81
4.4.3. Holistic approach and meta-information or metadata	81
4.5. On scientific journals	84
4.6. Conclusion	92
4.7. References	92

Chapter 5. Examples of Bibliometric Analysis of Scientific Information and Patents	97
5.1. Specialist search engines	98
5.1.1. Carrot ²	98
5.1.2. Wikimindmap	98
5.1.3. Newsmap	104
5.2. Scientific publications	106
5.2.1. Google Scholar	106
5.2.2. Access to Google Scholar since PoP (Publish or Perish).	107
5.2.3. The Web of Science (WoS).	110
5.2.4. Pubmed.	115
5.3. Information contained in the patents	120
5.3.1. General remarks on patents	120
5.3.2. Analyzing patent information.	124
5.4. Text mining from unstructured texts	138
5.5. Automatic summaries	140
5.6. Conclusion	143
5.7. References	143
Chapter 6. Social Networks	151
6.1. Different types of social networks	152
6.2. General remarks on social networks	155
6.2.1. Why use social networks in a business?.	155
6.2.2. The risks of social networks in a business	156
6.3. The dangers of social networks	157
6.4. Minimizing negative influence on social networks	158
6.5. An example of an international social network: the Confucius Institutes	160
6.5.1. Public diplomacy and Confucius Institutes.	160
6.5.2. Structuring the network of Confucius Institutes	161
6.6. Examples of software enabling analysis of social networks	163
6.6.1. Analyzing tweets	163
6.6.2. Sentiment mining or opinion mining	165
6.6.3. A more general approach: analyzing tweets in social networks.	168
6.7. Beyond socialbots and other IT systems, human action: fake news.	170
6.7.1. The fake news dynamic	170
6.7.2. Beyond publishing online	171
6.8. You love, you “like”, you click, you evaluate, but beware of “click farms”	172
6.8.1. Calling Facebook into question?	172
6.8.2. Click farms.	173
6.8.3. A new type of fake news	174

6.9. Big Data	174
6.9.1. The development of Big Data analytics	176
6.10. Conclusion	176
6.11. References.	177
Chapter 7. Information and Economic Security	185
7.1. Security	185
7.1.1. Physical security	185
7.1.2. Security, personnel and visitors	186
7.1.3. Security of immaterial goods	190
7.2. Disinformation and image management	192
7.3. Pressure groups and NGOs.	194
7.4. IT security	197
7.5. Safeguarding data	203
7.6. Respecting security clearance	203
7.7. Crisis management	205
7.8. Conclusion	205
7.9. References	206
Conclusion	209
Index	211
Summary of Contents of Volume 1	215