

---

# Contents

---

<b>Preface</b> . . . . .	ix
Jean-Pierre BRIFFAUT	
<b>Chapter 1. Perspectives on the Complexity of Criminal Investigations</b> . . . . .	1
Jérôme BARLATIER	
1.1. Introduction. . . . .	1
1.2. Criminal investigation, a process for reducing uncertainty . . . . .	2
1.2.1. A process of information analysis . . . . .	2
1.2.2. A process adapted to the needs of its time . . . . .	4
1.2.3. A process aiming to manifest the truth . . . . .	6
1.3. The criminal investigation, a complex system . . . . .	8
1.3.1. The stage and the acts . . . . .	8
1.3.2. Backstage and actor strategies . . . . .	10
1.3.3. The investigation as a modellable system. . . . .	15
1.4. The criminal investigation in interaction with its environment . . . . .	20
1.4.1. An efficiency often linked to its context of deployment . . . . .	20
1.4.2. Functioning that must not be reduced to a trivial mechanism . . . . .	23
1.4.3. A future dependent on its adaptation to the evolutions of society . . . . .	25
1.5. Conclusion . . . . .	28
1.6. References . . . . .	29
<b>Chapter 2. Complexity and Models in Social and Human Sciences</b> . . . . .	33
Jean-Pierre BRIFFAUT	
2.1. Impact of complexities . . . . .	33
2.2. Short historical perspective of recent views on complexity. . . . .	35

2.3. Paradigm shift in approaching complexity . . . . .	36
2.3.1. General context . . . . .	36
2.3.2. Prominent features of complexity . . . . .	38
2.3.3. Complexity and the ignorance-knowledge relationship in virtual universes . . . . .	41
2.3.4. Tools developed to understand complexity. . . . .	45
2.4. System, function and structure in the world associated with sociology.	50
2.5. Complexity, models and humanities and social sciences . . . . .	53
2.5.1. Why interest in humanities and social sciences? . . . . .	54
2.5.2. Historical perspective of organizational theory . . . . .	54
2.5.3. Proposals for establishing a “reasoned” theory of human organizations . . . . .	57
2.5.4. Logic to be implemented . . . . .	58
2.6. Conclusion . . . . .	66
2.7. References . . . . .	67
<b>Chapter 3. Detangling the Linguistic Quagmire of Bad Information</b>	71
Philippe CAPET	
3.1. Introduction. . . . .	71
3.2. The semantic field of information. . . . .	73
3.3. Philosophy of information: a hierarchy in the making. . . . .	76
3.4. The grammar of the verb “inform” . . . . .	79
3.4.1. Process and aspect in grammar . . . . .	79
3.4.2. “Inform”: process and aspect(s) . . . . .	82
3.4.3. A complete spectrum of processes for the verb “inform” . . . . .	85
3.5. On the other side of the mirror: reception and possession of information. .	86
3.5.1. Getting informed: questions and observations . . . . .	87
3.5.2. “Being informed” . . . . .	97
3.6. Wrongly informing, being wrongly informed: toward a taxonomy of “wrong” information . . . . .	101
3.6.1. The philosopher’s point of view . . . . .	102
3.6.2. The point of view of the grammarian . . . . .	104
3.6.3. An information tree in full bloom . . . . .	113
3.7. An initial framework for perspectives . . . . .	115
3.8. References . . . . .	116
<b>Chapter 4. Complexity in the Social Sciences: Is it a Transforming Perspective?</b>	119
Philip HAYNES	
4.1. Introduction. . . . .	119

4.2. Outline of an approach to complexity theory . . . . .	120
4.2.1. From systems to complex systems . . . . .	120
4.2.2. Systems in practice . . . . .	121
4.2.3. Contemporary explanations of social complexity . . . . .	123
4.2.4. Cases . . . . .	124
4.3. The interdisciplinary preference. . . . .	129
4.3.1. Sociology. . . . .	129
4.3.2. Economics . . . . .	130
4.3.3. Politics . . . . .	131
4.3.4. Interdisciplinary research . . . . .	131
4.4. Complexity and realism . . . . .	133
4.5. The application of complexity theory . . . . .	135
4.6. Conclusion . . . . .	136
4.7. Acknowledgments . . . . .	137
4.8. References . . . . .	138

**Chapter 5. Complexity as Duality? A Connection in Question . . . . .** 143

Maryvonne HOLZEM and Jacques LABICHE

5.1. Introduction: our research objectives. . . . .	143
5.2. A renewed epistemological framework for understanding complexity as a duality. . . . .	144
5.2.1. Epistemology of knowledge . . . . .	144
5.2.2. Cassirer and the perspective of cultural sciences . . . . .	146
5.3. From systems to systemics. . . . .	149
5.3.1. System interactions: from control to autonomy . . . . .	149
5.3.2. Developing the concept of autonomy . . . . .	152
5.4. F. Varela’s contribution . . . . .	158
5.4.1. The enaction of a world . . . . .	158
5.4.2. Subject/object duality . . . . .	166
5.5. Saussurian duality, text and metastability . . . . .	170
5.6. To not conclude . . . . .	173
5.7. References . . . . .	174

**Chapter 6. Organization, Models and Representations:  
From Complexity to Power. . . . .** 179

Yvon PESQUEUX

6.1. Introduction: organization, models and representations . . . . .	179
6.2. A systemic model of organization . . . . .	180
6.3. Brief review of the notion of a “black box” . . . . .	188

---

6.4. Governance at the basis of political models of organization . . . . .	196
6.5. References . . . . .	204
<b>Chapter 7. Epistemological Reflections on the Lifecycle of Crisis and Resilience in Organizations . . . . .</b>	<b>205</b>
Gilles TENEAU	
7.1. Introduction. . . . .	205
7.2. Organizations in perpetual change . . . . .	206
7.3. The element of identity when facing multiple, accelerating shocks . . .	209
7.4. Analysis of the crisis lifecycle and turning points . . . . .	213
7.5. Hologrammatic principle of resilience, the dialogics of time model . .	216
7.6. Conclusion . . . . .	218
7.7. References . . . . .	218
<b>Chapter 8. The Complexity of the Educational Revolution: Framework and Case-Study . . . . .</b>	<b>221</b>
Raf VANDERSTRAETEN and Frederik VAN DER GUCHT	
8.1. Introduction. . . . .	221
8.2. University graduates . . . . .	224
8.2.1. Historical evolution. . . . .	225
8.2.2. Geographical distribution . . . . .	229
8.2.3. Average income. . . . .	231
8.3. Early school leavers . . . . .	235
8.3.1. Historical evolution. . . . .	236
8.3.2. Geographical distribution . . . . .	240
8.3.3. Unemployment rates . . . . .	241
8.4. Conclusion . . . . .	245
8.5. References . . . . .	247
<b>Postface. . . . .</b>	<b>249</b>
Daniel KROB	
<b>List of Authors . . . . .</b>	<b>253</b>
<b>Index . . . . .</b>	<b>255</b>