

Table of Contents

1. A day to remember	11
1.1 Designed and Emergent Coordination	15
1.2 Administrative and Expertise Coordination	20
1.3 Centralized and Networked Coordination	25
1.4 Defining cross-boundary coordination	27
1.5 Research Methodology	29
1.6 Chapter overview: 'drawing the line' as the central metaphor	32
1.7 Chapter background	34
1.8 Drawing another line: beyond the focus of this dissertation	36
2. Picking up the Pieces	41
2.1 Picking up the Pieces	43
2.2 From integration, differentiation, and modularization towards fragmentation	45
2.3 Methodology	49
2.4 Findings	52
2.4.1 The practice of 'distancing from the incident'	52
2.4.2 The practice of 'demarcating expertise'	57
2.4.3 The practice of 'switching tactics'	60
2.5 Discussion	64
2.6 Conclusion	66
3. Drawing the Line	69
3.1 Introduction: tailoring boundary objects for cross-boundary coordination	71
3.2 The coordination function of boundary objects	73
3.3 Towards a process perspective on tailoring boundary objects	78
3.4 Methods	79
3.4.1 Research Setting and Data Collection	79
3.4.2 Analytical Process	82
3.5 Findings: Tailoring the boundary object for cross-boundary coordination	86
3.5.1 Tailoring the boundary object during the response to a traffic accident	87
3.5.2 Phase Analysis: comparing sequential patterns of tailoring the boundary object across exercises	93

3.5.3 Markov Analysis: general patterns of tailoring the boundary object	100
3.6 Conclusion and Discussion	101
3.7 Appendices	106
3.7.1 Appendix 1. Coding Logic	106
3.7.2 Appendix 2. Markov transition matrices	108
3.7.3 Appendix 3. Timeline charts of all exercises	110
4. You Didn't Know This Was Relevant for Us? Excuse me!	113
4.1 The Common Operational Picture as collective sensemaking	115
4.2 From an 'information warehouse' towards a 'trading zone'	117
4.3 Methodology and cases: a narrative analysis of the 'trading zone'	121
4.4 'Trading zones': constructing the COP during emergency response operations	123
4.4.1 Setting the scene	123
4.4.2 Case 1: "Is one hundred meters far enough?"	124
4.4.3 Negotiations during the field command meeting	124
4.4.4 Participant reflections on the negotiations	126
4.4.5 Case 2: "Can we go on board?"	127
4.4.6 Negotiations during the field command meeting	128
4.4.7 Participant reflections on the negotiations	128
4.4.8 Case 3: "How old are the kids?"	130
4.4.9 Negotiations in the field command meeting	131
4.4.10 Participant reflections on the negotiations	131
4.5 Discussion and conclusion	132
4.5.1 Actionable knowledge and reflexivity	134
4.5.2 Further research	135
4.5.3 Implications for practice	135
5. Incorporating Time Dynamics in the Analysis of Social Networks in Emergency Management	139
5.1 Introduction	141
5.2 The Use of Social Network Analysis to Depict Emergency Response Operations	143
5.3 Towards a Network Toolset to Measure Network Dynamics	148
5.4 The Case of the Amsterdam Schiphol Airport Train Tunnel Fire	150
5.5 Methods	152

5.5.1 Data Collection	152
5.5.2 Data Analysis	154
5.6 Results	156
5.6.1 Network Tool 1: Time Slices	156
5.6.2 Network Tool 2: Event-Actor Two-Mode Analysis	160
5.6.3 Network Tool 3: Information Pathways	162
5.7 Conclusion and Discussion	164
5.8 Appendix	167
6. Conclusion	171
6.1 Towards a fragmentation perspective on cross-boundary coordination	173
6.1.1 The paradox between designed and emergent coordination	174
6.1.2 The paradox between administrative and expertise coordination	176
6.1.3 The paradox between centralized and networked coordination	179
6.1.4 Coordination paradoxes as part of a fragmentation perspective	180
6.2 Theoretical Implications for Disaster Management	182
6.3 Theoretical Implications for Organization and Management Science	185
6.3.1 Emergent Coordination: the importance of temporality during negotiation processes	185
6.3.2 Expertise Coordination: the importance of relationality in boundary work	186
6.3.3 Networked Coordination: the importance of time dynamics for assessing coordination in networks	187
6.4 Implications for Practice	189
6.4.1 Allow for coordination based on fragmentation	190
6.4.2 Train for Negotiation and Reflection in Field Command Centers	191
6.4.3 Frame the capacities and limitations of a Common Operational Picture	191
6.4.4 Limit the number of officers in command	192
6.4.5 Take stock of information flows and network dynamics	192
6.5 Methodological reflection	193
6.6 Directions for future research	195
6.6.1 Processual studies	195
6.6.2 Pushing forward on the political dimension: negotiation in the trading zone	196
6.6.3 Smart Governance: moving beyond the boundaries of emergency management organizations	197

7. List of Figures	203
8. List of Tables	205
9. References	207
Summary	227
Samenvatting	231
Acknowledgements	235
About the author	239