

Contents

<i>List of Contributors</i>	<i>page xi</i>
Introduction and Overview	1
PART ONE FOUNDATIONAL COMPONENTS OF STORYLINES	21
1 The Role of Event-Based Representations and Reasoning in Language	23
<i>James Pustejovsky</i>	
1.1 Introduction	23
1.2 Introducing Situations and Events	25
1.3 Modeling the Substructure of Events	33
1.4 Enriching VerbNet with Event Dynamics	38
1.5 Conclusions	42
2 The Rich Event Ontology: Ontological Hub for Event Representations	47
<i>Claire Bonial, Susan W. Brown, Martha Palmer, and Ghazaleh Kazeminejad</i>	
2.1 Introduction	47
2.2 Ontologies	48
2.3 Semantic Role Labeling	56
2.4 Conclusions, Gaps, and Future Work	61
3 Decomposing Events and Storylines	67
<i>William Croft, Pavlína Kalm, and Michael Regan</i>	
3.1 Introduction: Events within Stories and Events within Events	67
3.2 Constructions as Well as Verbs Determine the Internal Structure of Events	69

viii	Contents	
3.3	Time and Qualitative State (Change)	71
3.4	Causation	74
3.5	Annotation Scheme	78
3.6	Visualization	80
3.7	Conclusion	82
4	Extracting and Aligning Timelines	87
	<i>Mark A. Finlayson, Andres Cremisini, and Mustafa Ocal</i>	
4.1	Introduction	87
4.2	Extracting Timelines	89
4.3	Aligning Timelines	95
4.4	Bringing It All Together	100
4.5	Conclusion	101
5	Event Causality	106
	<i>Paramita Mirza</i>	
5.1	Introduction	106
5.2	Modelling Causal Relations	108
5.3	Causal Annotation in Natural Language Text	110
5.4	Extracting Event Causality	114
5.5	Causal Commonsense Discovery	117
5.6	Conclusions	120
6	A Narratology-Based Framework for Storyline Extraction	125
	<i>Piek Vossen, Tommaso Caselli, and Roxane Segers</i>	
6.1	Introduction	125
6.2	A Narratology-Grounded Framework for Storylines Identification	126
6.3	From Theory to Data: Annotating Causelines and Storylines	130
6.4	Validating Causelines and Extracting Storylines	134
6.5	Conclusion	137
	PART TWO CONNECTING THE DOTS: RESOURCES, TOOLS, AND REPRESENTATIONS	143
7	The Richer Event Description Corpus for Event–Event Relations	145
	<i>Tim O’Gorman, Kristin Wright-Bettner, and Martha Palmer</i>	
7.1	Introduction	145
7.2	A Comparison of Event Annotation Choices	146
7.3	Long-Distance Relations in RED: Contains, Causality, and Coreference	155

Contents		ix
7.4	Studying RED Impact on Event Ordering	156
7.5	Conclusions	158
8	Low-Resource Event Extraction via Share-and-Transfer and Remaining Challenges	163
	<i>Heng Ji and Clare Voss</i>	
8.1	Introduction	163
8.2	Approach Overview	166
8.3	Share: Construction of Common Semantic Space	167
8.4	Transfer: From High- to Low-Resource Setting	175
8.5	Transfer Learning Performance	177
8.6	Remaining Challenges	177
8.7	Conclusions and Future Research Directions	182
9	Reading Certainty across Sources	187
	<i>Benjamin Miller</i>	
9.1	Introduction	187
9.2	Background	192
9.3	Methods	194
9.4	Results	195
9.5	Discussion	198
9.6	Conclusion	200
10	Narrative Homogeneity and Heterogeneity in Document Categories	203
	<i>Dan Simonson and Anthony R. Davis</i>	
10.1	Introduction: Narrative Schemas and Their Evaluations	203
10.2	Background	205
10.3	Data and Schema Generation	206
10.4	Evidence through NASTEA Task	208
10.5	Evidence through Schema Stability	213
10.6	Discussion	216
10.7	Conclusions	217
11	Exploring Machine Learning Techniques for Linking Event Templates	221
	<i>Jakub Piskorski, Fredi Šarić, Vanni Zavarella, and Martin Atkinson</i>	
11.1	Introduction	221
11.2	Task Description	224
11.3	Event Similarity Metrics	225
11.4	Experiments	230
11.5	Conclusions	236

12	Semantic Storytelling: From Experiments and Prototypes to a Technical Solution	240
	<i>Georg Rehm, Karolina Zaczynska, Peter Bourgonje, Malte Ostendorff, Julián Moreno-Schneider, Maria Berger, Jens Rauenbusch, André Schmidt, Mikka Wild, Joachim Böttger, Joachim Quantz, Jan Thomsen, and Rolf Fricke</i>	
12.1	Introduction: Technologies for Content Curation	240
12.2	Semantic Storytelling: Selected Components	242
12.3	Semantic Storytelling in Industry Use Cases	246
12.4	Towards a Flexible and Robust Technology Solution for Semantic Storytelling	250
12.5	Related Work	252
12.6	Conclusions and Future Work	254
	<i>Author Index</i>	260