Contents

Acknowledgements x
Preface to the First Edition xi
Preface to the Second Edition xii

1 Introduction 1
1.1 Semantics and pragmatics 1
1.2 Kinds of meaning 2
1.2.1 Denotation and Sense 2
1.2.2 Lexical and structural meaning 3
1.2.3 Categorematic and syncategorematic expressions 5
1.3 Truth-conditional theories of meaning 6
1.3.1 Denotations 6
1.3.2 Possible worlds, extension and intension 8
1.3.3 Truth conditions 8
1.3.4 Truth-based relations between statements 11
1.4 Implicature 12
1.4.1 The Principle of Relevance 13
1.4.2 The Principle of Informativeness 13
1.5 Other contextual factors: indexicality and anaphors 16
1.6 Presupposition 17
Exercises 20
Further Reading 23

2 Basic Logical Tools 24
2.1 Representations for meanings 24
2.2 The logical connectives 25
2.2.1 Conjunction 25
2.2.2 Negation 27
2.2.3 Disjunction 28
2.2.4 The material implication connective 29
2.2.5 The biconditional connective 31
2.3 Predicates and arguments 32
2.3.1 Predicates, verbs and the number of arguments 35
2.3.2 Sentences as arguments 38
2.3.3 Path arguments 39
Exercises 40
Further Reading 44

3 The Logical Quantifiers 45
3.1 The universal quantifier 45

3.2 The existential quantifier 47
3.3 Intersective and non-intersective adjectives 48
3.4 The logical quantifiers are interdefinable 49
3.5 Scope and scopal ambiguity 50
3.5.1 Scope and tree diagrams 50
3.5.2 Scopal ambiguity 53
Exercises 55
Further Reading 56

4 Formal Composition 57
4.1 Types 57
4.2 Functions 57
4.3 Types of function 58
4.4 Lambda abstraction 62
4.5 Some general rules for semantic composition 66
4.6 Predicate variables 70
Summary of rules and definitions 74
Exercises 75
Further Reading 78

5 Modality and Possible Worlds 79
5.1 Kinds of modality 79
5.1.1 Logical modality 79
5.1.2 Epistemic modality 80
5.1.3 Deontic modality 82
5.2 Modality and possible worlds 82
5.2.1 Logical modality and possible worlds 83
5.2.2 Epistemic modality and possible worlds 83
5.2.3 Deontic modality and possible worlds 84
5.2.4 Interdefinability with negation 85
5.3 Counterfactuals 88
Exercises 92
Further Reading 93

6 Generalized Quantifiers 94
6.1 Quantification beyond first order logic 94
6.2 Generalized Quantifier Theory 96
6.3 Different types of quantifier determiner 99
6.3.1 Group 1 and Group 2 determiners 99
6.3.2 The ambiguity of *few* and *many* 100
6.3.3 *Few* and a *few* 102
6.3.4 *Some* and *several* 103
6.4 Restricted quantifier notation 103
6.5 Scopal ambiguity 105
6.6 Proportional determiners and discourse familiarity 106
6.7 Strong and weak determiners and *there BE* sentences 107
6.7.1 The definiteness effect 107
6.7.2 Types of *there BE* sentence 108

6.8 Determiner *the* and definite descriptions 111
6.8.1 Russell's Theory of Descriptions 112
6.8.2 *The* as a generalized quantifier 113
6.8.3 Definite descriptions as strong NPs 114
Familiarity effects 114
Definite descriptions in *there BE* contexts 117
Definite descriptions and scopal ambiguity 117
6.9 Quantifiers and negative polarity items 118
6.10 Generalized quantifiers as lambda functions 121
Exercises 128
Further Reading 133

7 **Referential Opacity** 134
7.1 Quine's referential opacity 134
7.2 Modality, descriptions and names 138
7.2.1 Modality and names 138
7.2.2 Modality and descriptions 139
7.3 Propositional attitudes and descriptions 141
7.4 Summary: descriptions and scope 144
7.5 Propositional attitudes and names 144
7.6 *De re* and *de dicto* readings with other quantifiers 148
7.7 Indefinite descriptions and specificity 149
Exercises 152
Further Reading 155

8 ***Aktionsarten*: Aspectual Classes of Events** 156
8.1 Vendler's four aspectual classes 157
8.2 Diagnostic tests for *aktionsarten* 159
8.2.1 *In* adverbials 159
8.2.2 The *take* time construction 161
8.2.3 *For* adverbials 162
8.2.4 The sub-interval property 163
8.2.5 Entailments of the progressive 164
8.2.6 Duration and the progressive 165
8.3 Telicity and boundedness 166
8.4 Semelfactive predicates 166
8.5 *Aktionsarten* and agentivity 168
8.6 Nominal and verbal aspect 171
8.7 Closing comment 172
Exercises 173
Further Reading 175

9 **Tense and Aspect** 176
9.1 Introduction 176
9.2 The English verb group 176
9.3 Interpretations of present, past, progressive and perfect 178
9.3.1 Interpretations of the present tense 178
9.3.2 Interpretations of the past tense 180

9.3.3 Other forms for future and habitual 180
9.3.4 Interpretations of the progressive 181
9.3.5 Interpretations of the present perfect 182
Present time adverbials 182
Current result states 182
'Hot news' perfect 183
Continuing state 184
9.4 Tense as an operator 185
9.5 Tense and reference to times 187
9.6 Reichenbach's analysis of tense 189
9.7 Reference to times in a narrative 192
9.7.1 Reference time movement 194
9.7.2 State/progressive includes reference time: reference time includes bounded event 196
9.7.3 Is r the same as Reichenbach's R? 196
9.7.4 General principles for temporal interpretation in narrative 197
9.7.5 Adding tense 198
9.8 Closing comment 200
Exercises 200
Further Reading 205

10 Thematic Roles and Lexical Conceptual Structure 206
10.1 Introduction 206
10.2 Traditional thematic roles 206
10.2.1 Agent/Actor and Patient 207
10.2.2 Localist roles 209
10.2.3 Recipient and benefactive 211
10.2.4 Experiencer and stimulus 212
10.2.5 Do adjuncts have thematic roles? 213
10.2.6 Themes and Patients 215
10.2.7 Summary 215
10.3 More detailed analysis of thematic roles 217
10.4 Lexical conceptual structure and thematic roles 221
10.4.1 The action tier 221
10.4.2 Theme, goal and location 223
10.4.3 Experiencer and stimulus 223
10.4.4 Motion event roles 224
10.4.5 Recipient and benefactive 227
10.4.6 Summary of theta roles in LCS 229
10.5 Verb classes and LCS 229
10.6 Closing comment 233
Summary of LCS symbols and definitions with selected examples 233
Exercises 236
Further Reading 239

11 Events 241
11.1 Davidson's analysis of action sentences 241
11.2 Neodavidsonian developments 246
11.2.1 Separation of direct arguments 246
11.2.2 Relations to events 248
11.2.3 The adicity of verbal predicates 249
11.3 Events and perception verbs 250
11.4 Adding tense and NP quantifiers 252
Exercises 253
Further Reading 256

Bibliography 257
Index 265