

CONTENTS

| | | | |
|-------------------------------------|-----------|---|-----------|
| Preface to the fourth edition | ix | Syllables | 35 |
| Illustration credits | xi | Linguistic approaches to syntax | 36 |
| How to use this book | xiii | Summary | 46 |
| | | Questions to think about | 46 |
| | | Further reading | 47 |
| SECTION A: | | | |
| INTRODUCTION | I | | |
| | | SECTION B: THE | |
| 1. The study of language | 3 | BIOLOGICAL AND | |
| Introduction | 3 | DEVELOPMENTAL BASES | |
| Why study language and why is it | | OF LANGUAGE | 49 |
| so difficult? | 4 | | |
| What is language? | 5 | 3. The foundations of language | 51 |
| How has language changed over time? | 7 | Introduction | 51 |
| What is language for? | 9 | Where did language come from? | 51 |
| The history and methods of | | Do animals have language? | 54 |
| psycholinguistics | 9 | The biological basis of language | 67 |
| Models in psycholinguistics | 16 | Is there a critical period for language | |
| Language and the brain | 17 | development? | 73 |
| Themes and controversies | 22 | The cognitive basis of language | 80 |
| Summary | 27 | The social basis of language | 83 |
| Questions to think about | 27 | The language development of visually and | |
| Further reading | 28 | hearing-impaired children | 85 |
| | | What is the relation between language and | |
| 2. Describing language | 30 | thought? | 88 |
| Introduction | 30 | Summary | 100 |
| How to describe speech sounds | 30 | Questions to think about | 101 |
| Consonants | 33 | Further reading | 101 |
| Vowels | 35 | | |

| | | | |
|--|------------|---|------------|
| 4. Language development | 104 | Meaning-based facilitation of visual word recognition | 185 |
| Introduction | 104 | Processing morphologically complex words | 190 |
| What drives language development? | 105 | Models of visual word recognition | 192 |
| The language acquisition device | 111 | Coping with lexical ambiguity | 198 |
| How children develop language | 118 | Summary | 207 |
| Phonological development | 120 | Questions to think about | 208 |
| Lexical and semantic development | 125 | Further reading | 208 |
| Syntactic development | 136 | | |
| Summary | 150 | 7. Reading | 209 |
| Questions to think about | 151 | Introduction | 209 |
| Further reading | 151 | The writing system | 209 |
| 5. Bilingualism and second language acquisition | 153 | A preliminary model of reading | 210 |
| Introduction | 153 | The processes of normal reading | 212 |
| Bilingualism | 153 | The neuroscience of adult reading disorders | 220 |
| Second language acquisition | 158 | Models of word naming | 227 |
| Evaluation of work on bilingualism and second language acquisition | 162 | Connectionist models of dyslexia | 233 |
| Summary | 162 | Comparison of models | 237 |
| Questions to think about | 163 | Summary | 239 |
| Further reading | 163 | Questions to think about | 240 |
| | | Further reading | 240 |
| SECTION C: WORD RECOGNITION | 165 | 8. Learning to read and spell | 241 |
| 6. Recognizing visual words | 167 | Introduction | 241 |
| Introduction | 167 | Normal reading development | 241 |
| Basic methods and findings | 168 | Phonological awareness | 243 |
| What makes word recognition easier (or harder)? | 171 | How should reading be taught? | 247 |
| Attentional processes in visual word recognition | 177 | Learning to spell | 248 |
| Do different tasks give consistent results? | 180 | Developmental dyslexia | 249 |
| Is there a dedicated visual word recognition system? | 183 | Summary | 256 |
| | | Questions to think about | 256 |
| | | Further reading | 256 |
| | | 9. Understanding speech | 258 |
| | | Introduction | 258 |
| | | Recognizing speech | 258 |

| | |
|--|-----|
| Models of speech recognition | 267 |
| The neuroscience of spoken word recognition | 281 |
| Summary | 282 |
| Questions to think about | 283 |
| Further reading | 283 |

SECTION D: MEANING AND USING LANGUAGE **285**

| | |
|---|------------|
| 10. Understanding the structure of sentences | 287 |
| Introduction | 287 |
| Dealing with structural ambiguity | 288 |
| Early work on parsing | 291 |
| Processing structural ambiguity | 295 |
| Gaps, traces, and unbounded dependencies | 310 |
| The neuroscience of parsing | 312 |
| Summary | 316 |
| Questions to think about | 317 |
| Further reading | 317 |

| | |
|---------------------------------------|------------|
| 11. Word meaning | 319 |
| Introduction | 319 |
| Classic approaches to semantics | 321 |
| Semantic networks | 322 |
| Semantic features | 325 |
| Family resemblance models | 333 |
| Combining concepts | 336 |
| Figurative language | 337 |
| The neuroscience of semantics | 339 |
| Connectionist approaches to semantics | 351 |
| Summary | 357 |
| Questions to think about | 358 |
| Further reading | 358 |

| | |
|---|------------|
| 12. Comprehension | 360 |
| Introduction | 360 |
| Memory for text and inferences | 362 |
| Reference and ambiguity | 372 |
| Models of text processing | 377 |
| Individual differences in comprehension skills | 386 |
| The neuroscience of text processing | 388 |
| Summary | 390 |
| Questions to think about | 391 |
| Further reading | 391 |

SECTION E: PRODUCTION AND OTHER ASPECTS OF LANGUAGE **393**

| | |
|---------------------------------------|------------|
| 13. Language production | 395 |
| Introduction | 395 |
| Slips of the tongue | 396 |
| Syntactic planning | 402 |
| Lexicalization | 410 |
| Phonological encoding | 426 |
| The analysis of hesitations | 430 |
| The neuroscience of speech production | 433 |
| Writing and agraphia | 444 |
| Summary | 446 |
| Questions to think about | 447 |
| Further reading | 447 |

| | |
|------------------------------------|------------|
| 14. How do we use language? | 449 |
| Introduction | 449 |
| Making inferences in conversation | 449 |
| The structure of conversation | 453 |
| Collaboration in dialog | 454 |
| Sound and vision | 456 |
| Summary | 458 |

| | | | |
|---|------------|--------------------------------|------------|
| Questions to think about | 459 | Some growth areas? | 477 |
| Further reading | 459 | Conclusion | 480 |
| | | Questions to think about | 480 |
| 15. The structure of the language system | 460 | Appendix: Connectionism | 481 |
| Introduction | 460 | Interactive activation models | 481 |
| What are the modules of language? | 461 | Back-propagation | 483 |
| How many lexicons are there? | 462 | Further reading | 485 |
| Language and short-term memory | 468 | Glossary | 486 |
| Summary | 473 | Example of sentence analysis | 494 |
| Questions to think about | 474 | | |
| Further reading | 474 | | |
| 16. New directions | 475 | References | 495 |
| Introduction | 475 | Author index | 569 |
| Themes in psycholinguistics revisited | 475 | Subject index | 590 |