Contents

Preface xiii

1. **The origins of cognitive psychology** 1
   Behaviourism 2
   Gestalt psychology 6
   Skinner and language 7
   The birth of modern cognitive psychology 9
   The computer analogy 12
   Using human information processing as a scientific theory 14
   Nativism and nomotheism 16
   Good and bad cognitive psychology 18
   Connectionism 19
   Cognitive neuropsychology 20
   Cognitive neuroscience 22
   Overview 24
   Suggested further reading 25
   Revision questions 26

2. **Visual perception** 27
   Forms of perceptual process 27
   Object recognition 36
   Overview of theories of perception 42
   Overview 50
   Suggested further reading 51
   Revision questions 51

3. **Attention** 53
   Selective attention 53
   Resource models of attention 63
   Selection and resources in attention 65
   Norman and Shallice's model 72
   Covert attention 75
   Overview 76
   Suggested further reading 77
   Revision questions 77

4. **Memory: Short-term storage 79**
Memory and the behaviourist era 79
Memory and cognitive psychology 80
The serial position curve 81
Short-term and long-term store 83
Sensory memory 84
Echoic memory 87
Recency and STS capacity 88
Long-term recency 89
Is STS still a valid concept? 91
Drugs and STS 93
Amnesia and recency effects 93
Overview 95
Suggested further reading 96
Revision questions 96

5. **Memory: Long-term store 97**
The organisation of long-term store 97
A three component model of LTS 98
Experimental evidence 100
Amnesia and the episodic–semantic distinction 101
Implicit and explicit memory 104
Implicit learning 109
Overview 111
Suggested further reading 111
Revision questions 112

6. **Memory: Codes, processes, and loops 113**
Memory codes 113
Codes in verbal memory 114
Levels of processing 115
Working memory 121
Overview 128
Suggested further reading 129
Revision questions 129

7. **Memory: Remembering and forgetting 131**
How do we know memory is selective? 131
Theories of remembering 133
Clarifying our terms 134
Generation–recognition 135
Forgetting 138
Context 140
Components of recognition memory 142

Subjective differences in recognition memory 143
Process dissociation framework 145
Repression, false memory and hypnosis 152
Overview 154
Suggested further reading 155
Revision questions 155

8. **Knowledge 157**
Experimental evidence 157
Meaning in terms of defining attributes 158
Overview 167
Suggested further reading 168
Revision questions 168

9. **Imagery 169**
Knowledge as propositions 171
Imagery as an experimental variable 172
The dual coding hypothesis 173
Arguments against mental imagery 178
Imagery as perception 180
Neuropsychological evidence for mental imagery 181
Conclusion 183
Overview 184
Suggested further reading 184
Revision questions 185

10. **Language: Speech recognition 187**
The nature of true language 187
Speech recognition 189
Overview 202
Suggested further reading 203
Revision questions 203

11. **Language: Word recognition and reading 205**
Eye movements 205
Word recognition 213
Overview 223
Suggested further reading 224
Revision questions 225

12. **Language: Comprehension 227**
Competence and performance 227
Transformational grammar 229

Syntax, clauses, and memory 234
Inference 235
Overview 241
Suggested further reading 244
Revision questions 245

13. Language: Speaking and thinking 247
Speech production 247
Inner speech 251
Language and thought: The Sapir–Whorf hypothesis 254
Overview 257
Suggested further reading 258
Revision questions 258

14. Reasoning 261
Induction versus deduction 262
Representativeness 264
Correlation 267
Deduction 269
Hypothesis testing 271
Mental models 274
Overview 276
Suggested further reading 277
Revision questions 277

15. Problem solving 279
States, goals, and operators 280
Problem-solving heuristics 281
Problem solving using analogy 283
Games and expertise 285
Other forms of expertise 287
Creativity 289
The nature of creative individuals 291
Overview 294
Suggested further reading 295
Revision questions 295

Glossary 297

References 323

Author index 341

Subject index 347

Illustration credits 353