

Contents

List of Contributors xv

Preface xix

Part One: Overview

1. **Cognitive Neuropsychology and Cognitive Rehabilitation: A Marriage of Equal Partners?** 1
M. J. Riddoch and G. W. Humphreys
 - Introduction 1
 - Characteristics of Cognitive Neuropsychology 2
 - Cognitive Neuropsychology and Cognitive Rehabilitation 9
 - The Book 13

2. Cognitive Neuropsychology and Rehabilitation 17

M. Coltheart, A. Bates, and A. Castles

Introduction	17
Assessment	21
Focused Treatment	24
Devising Treatment Methods	26
Another Illustrative Case Study Briefly Described	28
Developmental Cognitive Neuropsychology	31
Developmental Reading Rehabilitation	32
Conclusions	34

Part Two: Visual Object Recognition

**3. Visual Object Processing in Normality and Pathology:
Implications for Rehabilitation 39**

G. W. Humphreys and M. J. Riddoch

Introduction	39
Normal Visual Object Processing	40
A Cognitive Neuropsychological Perspective	45
Constraints from a Modular Approach	49
Visual Rehabilitation	51
Normal Visual Learning	59
Visual Rehabilitation Revisited	66
Some Conclusions	70

**4. Developmental Prosopagnosia: A Functional Analysis and
Implications for Remediation 77**

Ruth Campbell and Edward De Haan

Introduction	78
Visuo-spatial Processing: Perception and Memory	80
Unfamiliar Face Processing: Perception and Memory	82
Face Identification	84
Other Face Processing Skills	85
Visual Object Recognition	88
Theoretical and Remedial Considerations	91
A Wider Perspective	94
Comparison with Other Patients	97
Conclusions	98

5. Rehabilitation of Semantic Memory Impairments 103
Giuseppe Sartori, Michele Miozzo, and Remo Job

Introduction	103
Case Reports	107
Pre-therapy Neuropsychological Evaluation	107
Cognitive Rehabilitation Procedure	110
Post-therapy Neuropsychological Evaluation	112
General Discussion	119

Part Three: Visual Attention

6. Towards an Understanding of Neglect 125
M. J. Riddoch and G.W. Humphreys

Towards an Understanding of Unilateral Neglect	125
The Heterogeneous Nature of the Anatomy of Neglect	126
The Asymmetrical Nature of Neglect Deficits	127
Eye Movements and Neglect	129
Functional Fractionations of Neglect	130
Nature of the Impaired Mechanism(s)	136
Rehabilitation of Neglect	141

7. On the Rehabilitation of Hemispatial Neglect 151
Elisabetta Làdavas, Giacomo Menghini, and Carlo Umiltà

Introduction	152
Orienting of Attention and Rehabilitation of Neglect	154
Some General Issues on the Rehabilitation of Neglect	157
Rationale for the Rehabilitation Procedure	158
A Rehabilitation Study	159
Discussion	165

8. The Rehabilitation of Attentional and Hemi-inattentional Disorders 173

Ian H. Robertson

- Introduction 174
- Evidence of a Link Between Attentional and Hemi-inattentional Deficits 174
- Effectiveness of Rehabilitation 176
- Effectiveness of Rehabilitation of Attentional Disorders 179
- Prospects for Rehabilitation of Hemi-inattention 183

9. Task Specific Effects in the Rehabilitation of Unilateral Neglect 187

Sheila Lennon

- Introduction 187
- Evaluation of Neglect 188
- Effectiveness of Rehabilitation in Neglect 189
- Discussion 200

10. Early Ipsilateral Orienting of Attention in Patients with Contralateral Neglect 205

Patrizia D'Erme, Guido Gainotti, Paolo Bartolomeo, and Ian Robertson

- Introduction 206
- Experiment 1 207
- Experiment 2 210
- Experiment 3 213
- General Discussion 218

Part Four: Motor Performance

11. From Motor Images to Motor Programs 225

M. Jeannerod and J. Decety

- Introduction 225
- Experiment 1 228
- Experiment 2 231

Experiment 3	235
Conclusion	240

12. Prevention of Early Immobility in Patients with Parkinson's Disease: A Cognitive Strategy Training for Turning in Bed and Rising from a Chair 245

Y.P.T. Kamsma, W.H. Brouwer, and J.P.W.F. Lakke

General Introduction	246
Experiment 1: Kinesiology of Turning in Bed and Rising from a Chair	249
Experiment 2: The Research on Training PD Patients	255
General Discussion	267

13. Rehabilitation of a Case of Ideomotor Apraxia 271

Emerita Pilgrim and G.W. Humphreys

Introduction	271
Case History	274
Assessment 1: Proprioceptive and/or Kinaesthetic Knowledge	275
Assessment 2: G.F.'s Performance Gesturing the Use of Objects	276
Assessment 3: Visually Related Left Hand Gesturing Deficit	278
Assessment 4: Effect of Treatment	281
General Discussion	283

Part Five: Spoken Language and Phonological Skills

14. Cognitive Neuropsychology and the Remediation of Disorders of Spoken Language 287

Andrew Ellis, Sue Franklin, and Alison Crerar

Introduction	287
Understanding Spoken Words	288
Modelling Auditory Word Comprehension and its Disorders	291
Modelling Naming and its Disorders	294

The Role of Models	298
Clinical Applications	301
Conclusions	312

15. Verb Retrieval and Sentence Construction: Effects of Targeted Intervention 317

Charlotte C. Mitchum and Rita Sloan Berndt

Introduction	317
Case History	324
Experiment 1: Facilitation of Verb Retrieval	328
Experiment 2: Facilitation of Grammatical "Frame" Construction	331
Reassessment of Original Baseline Tests	338
Discussion	340

16. Application of Cognitive Models to Remediation in Cases of Developmental Dyslexia 349

Philip H.K. Seymour and Frances Bunce

Introduction	350
Theoretical Options	350
Heterogeneity of Dyslexia	354
Design of the Intervention	361
Monitoring the Intervention	366
Cognitive Reassessment	368
General Discussion	370
Conclusion	375

17. Phonological Processing Deficits as the Basis of Developmental Dyslexia: Implications for Remediation 379

Linda S. Siegel

Introduction	380
Phonological Processing and Dyslexia	381
Phonological Processing and General Cognitive Ability	389
Reading Instruction Based on the Visual Route	395
Summary	397

18. The Association between Reading Strategies in Poor Readers and their Visual and Phonological Segmentation Skills 401

Rhona S. Johnston, Marjorie Anderson, and Lynne G. Duncan

- Introduction 402
- Method 405
- Materials and Procedure 407
- Results of Poor Readers and their Controls 409
- Results for Subgroups of Poor Readers 411
- Discussion 416

Part Six: Written Language

19. Reading, Writing, and Rehabilitation: A Reckoning 425

Karalyn Patterson

- Introduction 425
- Acquired Disorders of Reading 426
- Acquired Disorders of Writing 430
- Studies of Treatment for Acquired Disorders of Reading and Writing 431
- Concluding Remarks 442

20. Theories of Lexical Processing and Rehabilitation of Lexical Deficits 449

Argye E. Hillis and Alfonso Caramazza

- Introduction 450
- Studies of Therapy to Reduce Semantic Paraphasias 454
- Discussion 474

21. Cognitive Approaches to Writing Rehabilitation: From Single Case to Group Studies 485

Sergio Carlomagno, Alessandro Iavarone, and Anna Colombo

- Introduction 485
- The State of the Art 486
- Patients 490
- Treatment Procedures 492

Results 496
Discussion 498

22. Approaches to the Rehabilitation of “Phonological Assembly”: Elaborating the Model of Nonlexical Reading 503

Rita Sloan Berndt and Charlotte C. Mitchum

Introduction 503
Case Report 510
Motivating the Specific Intervention 511
Locating the Deficit on the Model 512
Treatments 1 and 2: Phonological Segmentation;
Grapheme/Phoneme Associations 514
Diagnostic Assessments Prior to
Blending Treatment 516
Treatment 3: Phoneme Blending 517
Discussion 519

Part Seven: Memory

23. Domain-specific Learning and Remediation of Memory Disorders 527

Elizabeth L. Glisky, Daniel L. Schachter, and Meryl A. Butters

Introduction 528
Domain-specific Learning: Rationale and Evidence 529
Real-world Applications of
Domain-specific Learning 534
Hyperspecificity and Transfer 537
Applied Implications 543

24. The Flexibility of Implicit Memory: An Exploration Using Discrimination Learning 549

Alan D. Pickering

Introduction 550
Implicit Memory: Data and Difficulties 550
Implicit Memory, Cognition, and Flexibility 553
Eichenbaum’s Experiments 555

An Overview of the Analogous Human Discrimination Task	558
Predictions for Human Subjects	560
Method	561
Results and Discussion	563
Theoretical Implications	565
Implications for Rehabilitation	566
25. Imagery as a Mnemonic Aid in Amnesia Patients: Effects of Amnesia Subtype and Severity	571
<i>Anders Gade</i>	
Introduction	571
Methods	575
Procedure	576
Results	579
Discussion	583
Author Index	590
Subject Index	602