Contents

Preface ix
Participants and Contributors xvii
Group Photo xxi

I Association Lecture 1

1. Learning and Connectionist Representations 3
David E. Rumelhart and Peter M. Todd

II Visual Information Processing 31
Introduction 33

2. Visual Information Processing: A Perspective 37
Michael H. Van Kleeck and Stephen M. Kosslyn

3. Color Constancy and Color Perception: The Linear-Models Framework 59
Laurence T. Maloney

4. The Visual Recognition of Three-dimensional Objects 79
Shimon Ullman

5. Five Hunches about Perceptual Processes and Dynamic Representations 99
Jennifer J. Freyd

6. Perceiving an Integrated Visual World 121
David E. Irwin

7. Interactions between Object and Space Systems Revealed through Neuropsychology 143
Glyn W. Humphreys and M. Jane Riddoch

8. Representing Visual Objects 163
Anne Treisman

III Attention 177
Introduction 179

9. Attention and Control: Have We Been Asking the Wrong Questions? A Critical Review of Twenty-Five Years 183
Alan Allport

10. Electrocortical Substrates of Visual Selective Attention 219
George R. Mangun, Steven A. Hillyard, and Steven J. Luck

11. Dual-Task Interference and Elementary Mental Mechanisms 245
Harold Pashler

12. Using Repetition Detection to Define and Localize the Processes of Selective Attention 265
George Sperling, Stephen A. Wurst, and Zhong-Lin Lu

13. The Skill of Attention Control: Acquisition and Execution of Attention Strategies 299
Daniel Gopher

14. The Control of Skilled Behavior: Learning, Intelligence, and Distraction 323
John Duncan, Phyllis Williams, Ian Nimmo-Smith, and Ivan Brown

15. Attention before and during the Decade of the Brain 343
Michael I. Posner

IV Learning and Memory 351
Introduction 353

16. Twenty-Five Years of Learning and Memory: Was the Cognitive Revolution a Mistake? 359
Douglas L. Hintzman

17. Memory: Organization of Brain Systems and Cognition 393
Larry R. Squire, S. Zola-Morgan, C. B. Cave, F. Haist, G. Musen, and W. A. Suzuki

18. Dissociations between Component Mechanisms in Short-Term Memory: Evidence from Brain-Damaged Patients 425
David Howard and Sue Franklin

19. The Organization of Object Knowledge: Evidence from Neuropsychology 451
Giuseppe Sartori, Remo Job, and Max Coltheart

20. The Story of the Two-Store Model of Memory: Past Criticisms, Current Status, and Future Directions 467
Jeroen G. W. Raaijmakers

21. Memory Retrieval with Two Cues: Think of Intersecting Sets 489
Michael S. Humphreys, Janet Wiles, and John D. Bain

22. Learning and Memory: Progress and Challenge 509
Henry L. Roediger III

V Mental Chronometry and Processing Dynamics 529
Introduction 531

23. Information, Time, and the Structure of Mental Events: A Twenty-Five-Year Review 535
Richard Schweickert

24. On the Transfer of Partial Information between Perception and Action 567
Gijsbertus Mulder, H. G. O. M. Smid, and L. J. M. Mulder

25. Use of Independent and Correlated Measures to Divide a Time-Discrimination Mechanism into Parts 589
Seth Roberts

26. The Meaning of Additive Reaction-Time Effects: Tests of Three Alternatives 611
Seth Roberts and Saul Sternberg

27. Toward a Theory of Information Processing in Graded, Random, and Interactive Networks 655
James L. McClelland

28. Performance Theory and Measurement through Chronometric Analysis 689
Andries F. Sanders

VI Motor Control and Action 701
Introduction 703

29. The Uncertain Motor System: Perspectives on the Variability of Movement 709
Alan M. Wing

30. Neuronal Networks for Movement Preparation 745
Jean Requin, Alexa Riehle, and John Seal

31. Speech Production and Perception in Patients with Cerebellar Lesions 771
Richard B. Ivry and H. S. Gopal

32. Plans for Object Manipulation 803
David A. Rosenbaum, Jonathan Vaughan, Matthew J. Jorgensen, Heather J. Barnes, and Erika Stewart

33. Optimization and Learning in Neural Networks for Formation and Control of Coordinated Movement 821
Mitsuo Kawato

34. Strategies for Understanding Movement 851
Paolo Viviani

VII Symposium Discussant 861

35. A Word before Leaving 863
Donald E. Broadbent

Reviewers 881
Author Index 883
Subject Index 903