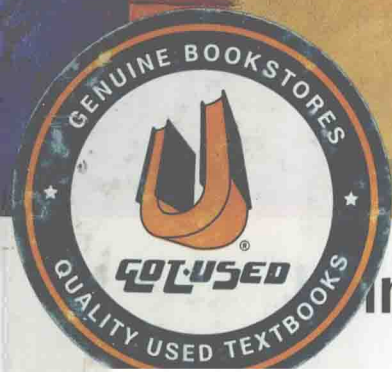
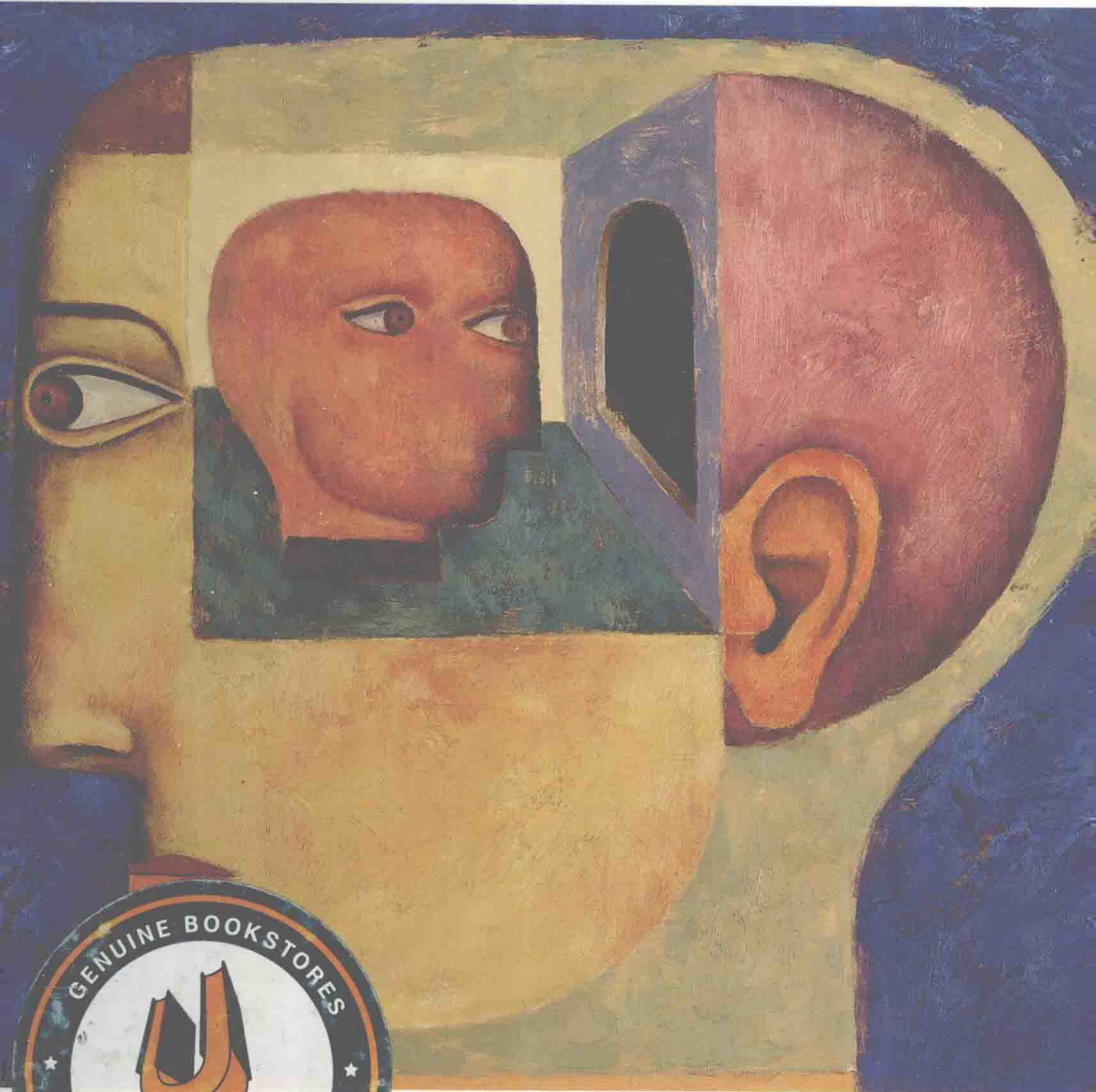


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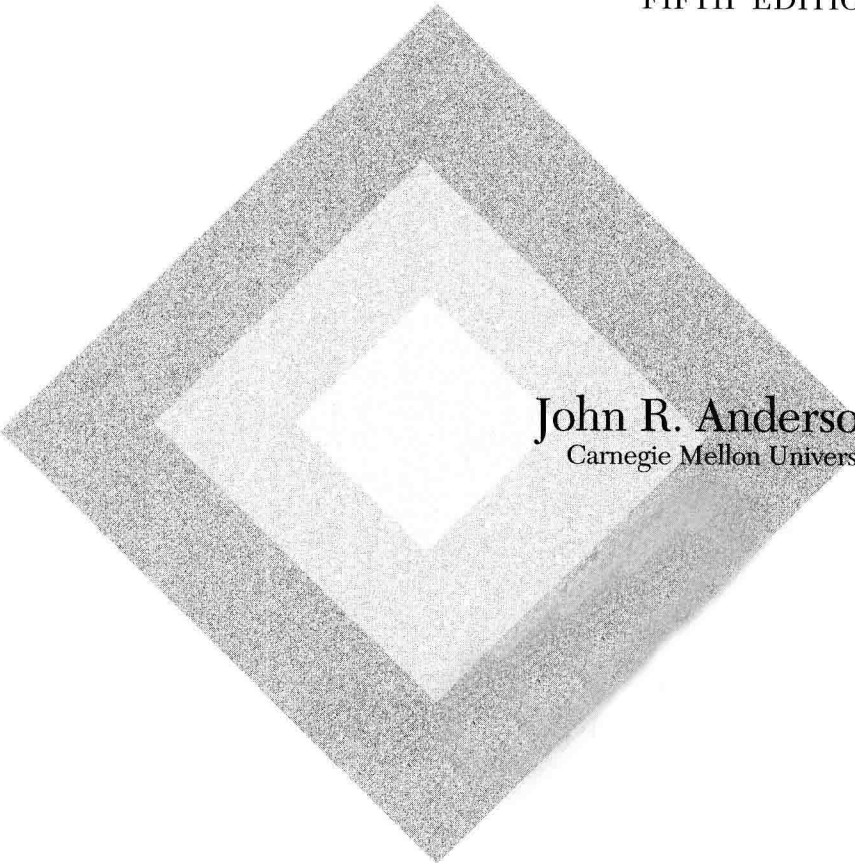
FIFTH EDITION



by R. Anderson

COGNITIVE PSYCHOLOGY AND ITS IMPLICATIONS

FIFTH EDITION



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Worth Publishers

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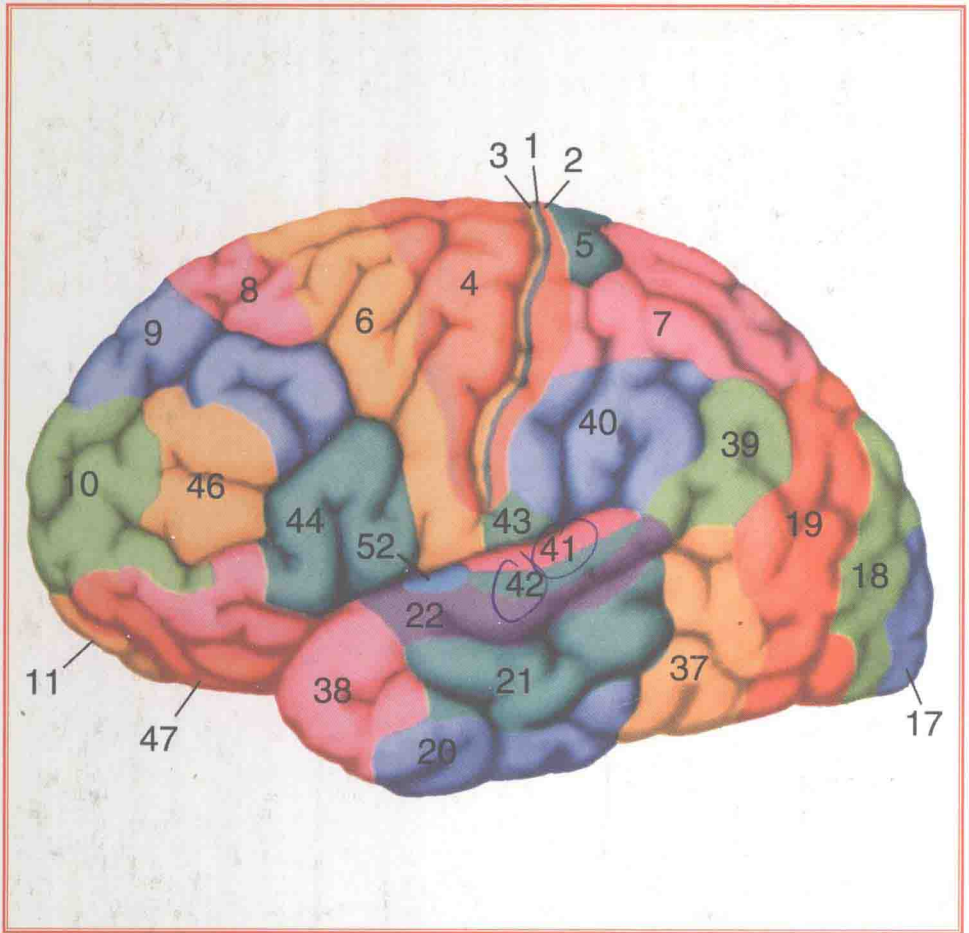
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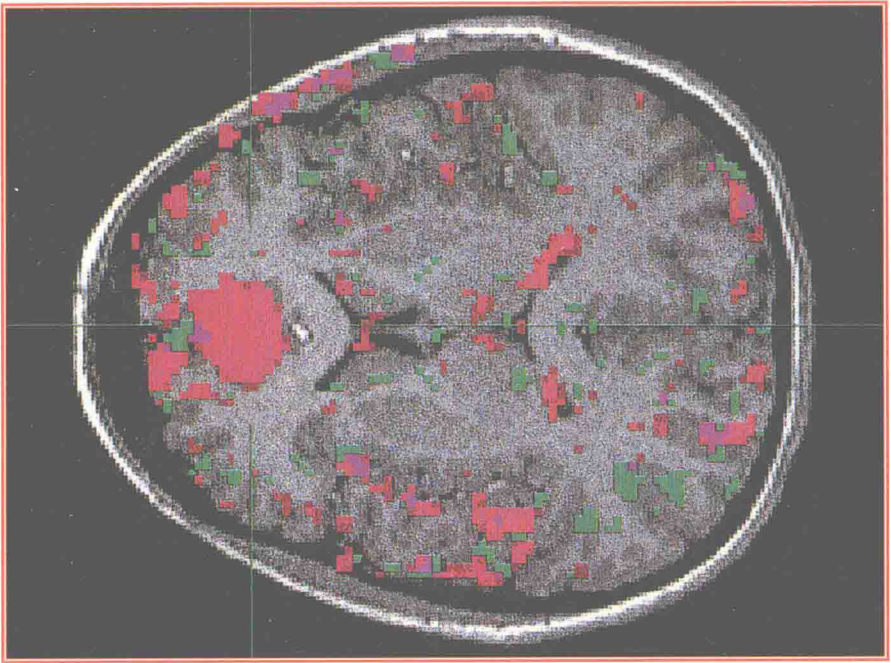
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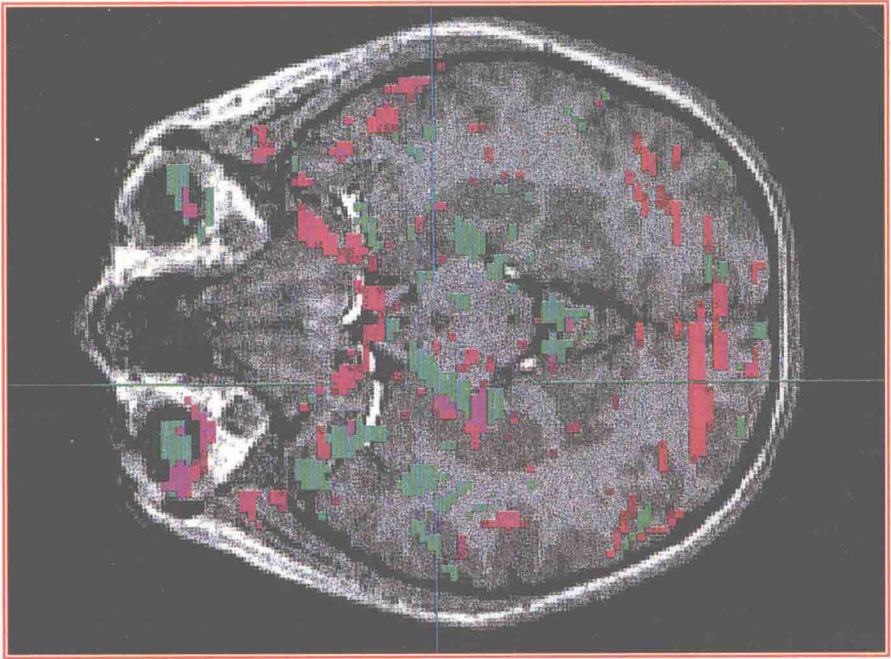


Brodman Areas

The fifty-two distinct areas described by Brodmann based on cell structure and arrangement.



(a)



(b)

fMRI scans of a subject practicing a complex task studied by Fincham, Schneider, and Anderson. Red indicates activation early in practice, and green indicates activation late in practice.

(a) An oblique axial scan of a slice through the upper part of the brain showing large anterior cingulate activation early in practice.

(b) An oblique axial scan of a slice through the medial part of the brain showing large hippocampal activation late in practice.

COGNITIVE PSYCHOLOGY
AND ITS
IMPLICATIONS

◆ TO GORDON BOWER

◆ Preface

This is the fifth edition of my book. It was over twenty years ago that I undertook the writing of the first edition. A generation has passed and a lot has happened in cognitive psychology since that time, and a lot has happened to me and my perspectives on the field and its teaching.

The first edition was written when the field of cognitive psychology had just reached maturity. In the 1950s, a number of true pioneers broke with the behaviorist tradition and laid the foundations for cognitive psychology. In the 1960s psychologists worked hard to establish experimental paradigms and theoretical models for the new discipline. When I entered the field at the beginning of the 1970s, I was able to take full advantage of the previous two decades of effort. In the 1970s there was an amazing blossoming of research, and by the end of the decade, it became apparent to me that there was a coherent structure to the field that could be communicated in a textbook. The first edition of this book was published in 1980.

Since 1980 cognitive psychology has matured substantially. Almost every area has broadened in its empirical bases and in the detail of its theoretical interpretations. It has become increasingly difficult to choose exactly what to discuss in the book, but I continue to strive to provide the student with the big picture of the current state of the field. There have been new areas of research, most notably studies of human expertise and research on the neural basis of cognition. Some of the research on expertise is presented in Chapter 9, which was new in the second edition. Probably, the most significant difference between this current edition and the fourth edition is the increased use of data from cognitive neuroscience. Such data is starting to substantially determine our understanding of the mind.

In response to a publishing merger, my book is now being published by Worth. This has been a relatively painless transition for me, and I appreciate the effort at Worth to make it so. Among their many activities, they arranged for an extensive set of reviews. I appreciate the many comments and suggestions of these reviewers: Charles K. Allan, University of Montana; James Beale, Grand Valley State University; Stephen Blessing, University of Florida; Bruce Britton, University of Georgia; Gregory Burton, Seton Hall University; Robert Calfee, Stanford University; Nick Chater,

University of Warwick, United Kingdom; David Elmes, Washington and Lee University; K. Anders Ericsson, Florida State University; Dortha Halpert, Brooklyn College; Lorna Hernandez-Jarvis, Hope College; Robert Hoffman, University of West Florida; Earl Hunt, University of Washington; Philip Johnson-Laird, Princeton University; Karen J. Mitchell, Kent State University; John D. Murray, Georgia Southern University; E. Slater Newman, North Carolina State University; Thomas Palmeri, Vanderbilt University; Joseph Thompson, Washington and Lee University; Roman Traban, Texas Tech University; Patricia deWinstanley, Oberlin College; Charles A. Weaver, Baylor University; Larry Wood, Brigham Young University.

I would also like to thank the people who read the first four editions of my book, as much of their earlier influence remains: Jim Anderson, Irv Biederman, Liz Bjork, Lyle Bourne, John Bransford, Pat Carpenter, Bill Chase, Micki Chi, Bill Clancy, Chuck Clifton, Lynne Cooper, Gus Craik, Bob Crowder, Martha Farah, Ronald Finke, Susan Fiske, Michael Gazzaniga, Ellen Gagné, Rochel Gelman, Lynn Hasher, Geoff Hinton, Kathy Hirsh-Pasek, Buz Hunt, Laree Huntsman, Lynn Hyah, Marcel Just, Stephen Keele, Walter Kintsch, Dave Klahr, Steve Kosslyn, Al Lesgold, Clayton Lewis, Beth Loftus, Marsha Lovett, Maryellen MacDonald, Brian MacWhinney, Dominic Massaro, Jay McClelland, Al Newell, Don Norman, Gary Olson, Allan Paivio, Nancy Pennington, Jane Perlmutter, Peter Polson, Jim Pomerantz, Mike Posner, Roger Ratcliff, Lynne Reder, Steve Reed, Russ Revlin, Phillip Rice, Lance Rips, Roddy Roediger, Miriam Schustack, Terry Sejnowski, Bob Siegler, Ed Smith, Kathy Spoehr, Bob Sternberg, Charles Tatum, Dave Tieman, Tom Trabasso, Henry Wall, and Maria Zaragoza.

Finally, I would like to thank my secretary Helen Borek, who also worked on the previous two editions. She has become a veteran of the book writing process whose accumulated knowledge is essential to the success of the project.

John R. Anderson

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