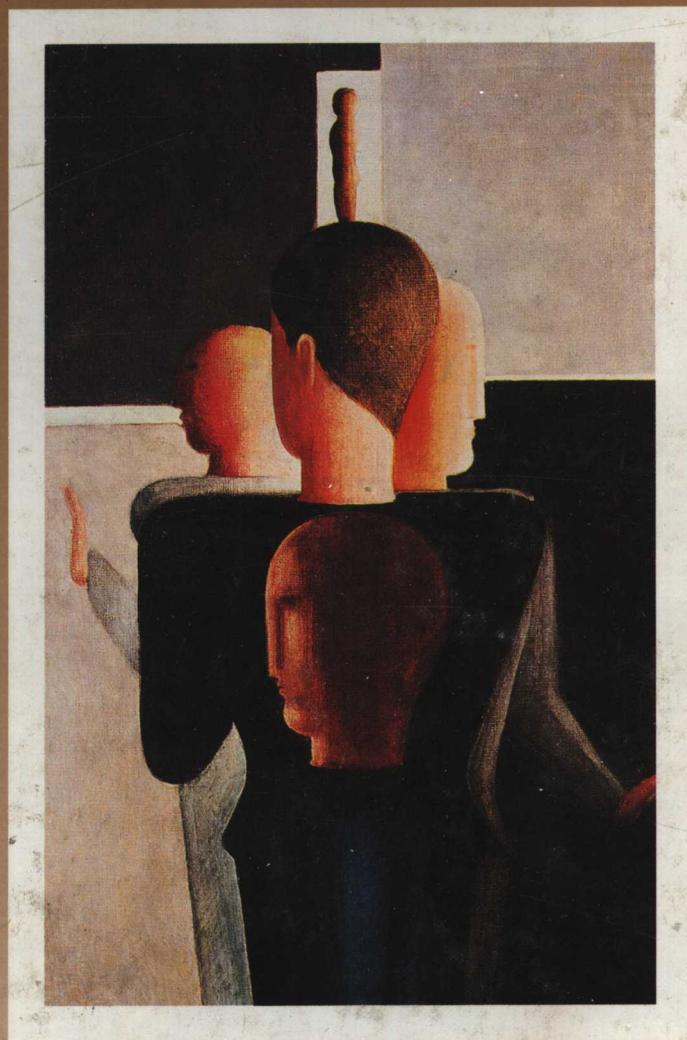


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# PSYCHOLOGY

SECOND EDITION



Henry L. Roediger III  
J. Philippe Rushton  
Elizabeth Deutsch Capaldi  
Scott G. Paris

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SECOND EDITION

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Purdue University

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The University of Western Ontario

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Scott G. Paris

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LITTLE, BROWN AND COMPANY

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We dedicate this book to the people close to us:

Mary Schiller

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*continued on page A47*

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# Preface

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**E**XCITING NEW THEORIES AND RESEARCH CONTINUE TO SHAPE AND refine psychology's domain. As teachers and researchers, our primary goal in writing *Psychology* is to communicate both the fundamental principles and the changing viewpoints within our discipline. We want our readers—your students—to explore not only the remarkable classic achievements of psychological research but also the discipline's frontiers, the areas in which theories outnumber facts and where new discoveries are likely to emerge. By doing so, we hope to instill in readers the enthusiasm and personal commitment we share for psychology. The notable success of *Psychology*'s first edition gives us the opportunity to continue the work and keep pace with psychology's changing developments. More important, we have added features and material in this second edition that make the book more accessible to a broader range of students.

We received reactions and reviews of the first edition from many instructors, students, and specialists. Their advice was critical to deciding how to revise and improve the book. With their help, and the help of several colleagues, the second edition was carefully drafted and revised several times. We indicate some of the major changes in the second edition in the following summary of the book's organization and features.

## GENERAL ORGANIZATION

The text contains 18 chapters, which are divided among seven parts. The flow of topics follows the traditional organization for most introductory courses. We recognize that no single ordering of the field will satisfy everyone, so we have designed the parts and the chapters to be used flexibly, to

suit a one-semester or two-semester course, or to fit particular curriculum needs. Perhaps the biggest change in the second edition's contents is an added chapter on adolescence and adulthood; but every chapter has been thoroughly revised.

In Part I we introduce the field of psychology by discussing the diversity of psychologists' interests and the research methods that psychologists use. In the first edition, we structured most of the discussion of research methods around a single experiment so that students could see the process of experimentation in detail. We expanded this presentation and used a new model experiment, based on the state-dependent retrieval phenomenon in memory. We also expanded the section on research issues, a popular feature in the first edition. (For instructors who enrich discussion of research methodology with statistical underpinnings, we have included an appendix at the end of the book introducing statistical reasoning.) Part I also contains a chapter on the biological bases of behavior, material that is fundamental to many concerns within the field of psychology. Important new developments in psychobiology occur almost daily. Our goal was to weave in new material (e.g. dopamine circuits) without disrupting the coherence and flow of the chapter. The organization of the chapter is much stronger overall. The discussion of brain parts, for example, has been linked together by the theme of evolutionary development.

Part II comprises chapters dealing with the individual's experience of the world—sensation, perception, and the varieties of conscious experience. Again, each chapter was thoroughly revised. Chapter 5, "Consciousness and Attention," for example, contains much more information on dreams and dreaming, as well as new research into the uses of hypnosis.

Part III now includes three chapters: "Conditioning and Learning," "Remembering and Forgetting," and "Thought and Language." The last chapter includes new sections on problem solving, cognitive skills, and decision making. This information is interesting and extremely useful to students.

Part IV contains two chapters on development and a full chapter on intelligence and intelligence testing. The first chapter on development, "Infancy and Childhood," is organized topically, covering the physiological, cognitive, and social milestones until puberty. This material is better organized, more complete, and more accessible to students compared with the first edition coverage. As we have mentioned, the second chapter on development, "Adolescence and Adulthood," is completely new to this edition, reflecting the broad shift in developmental research over recent years to encompass the entire life span. The coverage is particularly up-to-date in the area of adult development, a topic we expanded to satisfy the requests of many users. A special section of the chapter surveys some of the challenges facing adolescents and young adults today, topics many students will find particularly interesting.

Part V includes chapters on motivation and emotion—areas in which current research is especially active, requiring substantial changes from the first edition. Noteworthy additions to Chapter 12 include a section on work motivation. In Chapter 13, we have added cognitive theories of emotion and strategies for dealing with stress.

Part VI is devoted to personality, personality assessment, abnormal personality, and psychotherapies. One of the special features of this part is the new comprehensive approach to DSM III classification in Chapter 15. We

have also added a new section on cognitive therapies to our discussion of psychotherapies in Chapter 16 and, in the same chapter, cover recent research comparing the relative effectiveness of psychotherapy and drug therapy in relieving mental disorders.

Part VII, concluding the book, covers social influences on behavior. Chapter 17 deals with the social psychological approach to behavior; the final chapter discusses many social issues to which psychologists apply their expertise. Throughout these chapters we have strengthened our focus on applied psychological research. Chapter 17, for example, contains a section on industrial and organizational psychology, a topic often ignored in introductory textbooks. We have also strengthened the focus on applied psychological research in other contexts. Wherever possible, we relate psychological theory to familiar settings—the classroom, the voting booth, or the offerings on TV.

We have expanded the illustration program for the second edition. Full-color graphs and tables appear in every chapter. There are also beautiful color reproductions of fine art at the front of each part and color photographs scattered throughout the book. As a result, the “look” of *Psychology* in the second edition is completely different from the first edition.

## CHAPTER ORGANIZATION

Each chapter is organized by a set of five or six main headings, or themes. We maintain uniformity among chapters so that students can profit from familiar, coherent structure. In addition to the main topics, each chapter after the first contains three special features set off from the text: Research Frontier, Controversy, and Applying Psychology. This unique combination of features draws upon the fundamental principles discussed in each chapter.

**RESEARCH FRONTIER.** This is a new feature of the second edition. In this section we take a frontier area of psychology and explore it in greater detail than would be possible in normal text coverage. For example, in Chapter 3, we discuss the role of endorphins in modulating pain and stress; in Chapter 12, we discuss recent research on obesity and dieting; and in Chapter 14 we discuss new research indicating that personality traits may be inherited to some extent. We hope Research Frontiers will illustrate for students the dynamic character of psychology as a developing science.

**CONTROVERSY.** One of the compelling aspects of contemporary psychology is its intellectual ferment. Many issues are unsettled; many controversies exist. In this boxed section we take one such controversy, present its opposing viewpoints, and, if possible, draw tentative conclusions. For example, in Chapter 14 we consider whether people have general personality traits or if behavior is situationally specific; in Chapter 11 we consider whether I.Q. scores are predicted by family size and birth order; and in Chapter 10 we ask why males excel in math. We received many favorable comments concerning the Controversy feature in the first edition, and we have tried to maintain its strength in the second edition. Many of the controversies included are new to the second edition.

**APPLYING PSYCHOLOGY.** We have linked psychological knowledge to concrete examples and daily experiences throughout the text in order to clarify abstract issues. In addition, each chapter offers a section discussing one particular application of psychology at great length. For example, in Chapter 2 we discuss the applications of Positron Emission Tomography (PET scans); in Chapter 5 we consider sleep disorders and their remedies; and in Chapter 15 we consider the psychological and legal implications of criminal defenses based on pleas of insanity.

**OTHER FEATURES.** Immediately following this preface is a guide that contains tips on how to study, and how students can use this book most wisely. (Chapter 7 includes a new discussion of the PQ4R method of studying textbooks—Preview, Question, Read, Reflect, Recite, and Review.) Each chapter begins with an outline and an opening narrative that helps students focus their attention on key topics and concepts. Throughout the text, important terms are boldfaced as they are defined, and these definitions are collected in an extensive glossary. Each chapter ends with a numbered chapter summary, as well as a list of suggested readings. In addition to these learning aids, we offer a study guide, described below.

## ANCILLARY MATERIALS

We have expanded the complete package of learning and teaching aids for *Psychology*. The *Study Guide*, prepared by Barbara and David Basden of California State University at Fresno, offers a unique selection of activities and features suitable for students of all abilities. For each chapter in the textbook, the *Study Guide* provides learning objectives, a completion outline, sample multiple-choice items, and short essay questions and their answers. The guide also includes, "Psychology and Everyday Life"—brief articles tying psychological research to familiar problems—and "Activities," designed to broaden the student's understanding of the psychological principles. The *Test Bank*, prepared by David G. Payne of the State University of New York at Binghamton in collaboration with the authors, provides some 2600 multiple-choice items. Each item is keyed to a learning objective, referenced to the textbook, and identified as either fact or comprehension type.

The test-generation program offers all 2600 test items on floppy disk for the microcomputer or on tape for the mainframe. With this program, instructors can generate printed tests for their own curriculum needs.

The *Instructor's Manual*, prepared by Hiram E. Fitzgerald and Cathleen McGreal of Michigan State University, provides chapter overviews, suggestions for lectures and class demonstrations, a guide to audiovisual resources, and a special section describing available classroom software for the introductory course. The transparency/slide package, prepared by David Miller of The University of Connecticut, includes over 100 classroom visual aids, many of which are not found in the textbook. They are available for those adopting the textbook either as  $8\frac{1}{2} \times 11$  inch acetate transparencies for overhead projection or as 35mm slides. We will also provide our adopters with the popular *Psychology Updates*, which contain brief articles by each of the authors focusing on new developments and research on topics covered in the text. *Updates* are published semiannually.

## ACKNOWLEDGMENTS

Writing an introductory psychology text is a collaborative task. Although only four names appear on the cover of the book as authors, many more people helped in important ways. We wish to thank our colleagues who were instrumental in helping us develop the first edition of this book: Paul R. Abramson, University of California, Los Angeles; Bem P. Allen, Western Illinois University; Ruth L. Ault, Davidson College; Bruce L. Baker, University of California, Los Angeles; Barbara H. Basden, California State University–Fresno; Thomas J. Bouchard, Jr., University of Minnesota; James F. Calhoun, University of Georgia; David E. Campbell, Humboldt State University; Garvin Chastain, Boise State University; Margaret S. Clark, Carnegie-Mellon University; Helen J. Crawford, The University of Wyoming; Helen B. Daly, State University of New York–Oswego; Robert DaPrato, Solano Community College; Stephen F. Davis, Emporia State University; Anthony J. DeCasper, The University of North Carolina at Greensboro; Douglas R. Denney, University of Kansas; John W. Donahoe, University of Massachusetts–Amherst; James L. Dupree, Humboldt State University; Rand B. Evans, Texas A & M University; David R. Evans, The University of Western Ontario; Russell H. Fazio, Indiana University; Hiram E. Fitzgerald, Michigan State University; Barry Fish, Eastern Michigan University; Donald J. Foss, The University of Texas at Austin; James Geiwitz; M. M. Gittis, Youngstown State University; Michael J. Goldstein, University of California, Los Angeles; Richard L. Gottwald, Indiana University at South Bend; Richard A. Griggs, University of Florida; Ronald Growney, The University of Connecticut; Judith Harackiewicz, Columbia University; Peter C. Holland, Duke University; Karen L. Hollis, Mt. Holyoke College; Carroll E. Izard, University of Delaware; John Jonides, The University of Michigan; Robert A. Karlin, Rutgers University; Saul M. Kassin, Williams College; Katherine W. Klein, North Carolina State University; Lynn T. Koslowski, University of Toronto; Kenneth R. Livingston, Vassar College; Katherine Loveland, Rice University; Duane R. Martin, The University of Texas at Arlington; Antonio A. Nuñez, Michigan State University; Steven Penrod, University of Wisconsin; Ronald H. Peters, Iowa State University; James R. Pomerantz, State University of New York at Buffalo; George V. Rebec, Indiana University; Freda Rebelsky, Boston University; Michael E. Rashotte, The Florida State University; Mary Anne Sedney, Providence College; E. Eugene Schultz, The University of North Carolina at Asheville; Richard Schweickert, Purdue University; Jack Sherman, University of California, Los Angeles; Steven M. Smith, Texas A & M University; Judith M. Stern, Rutgers University; Robert J. Sternberg, Yale University; Joseph P. Stokes, The University of Illinois at Chicago Circle; Michael Tanenhaus, Wayne State University; Dennis C. Turk, Yale University; Joseph B. Thompson, Washington and Lee University; Gerald S. Wasserman, Purdue University; Michael J. Watkins, Rice University; Catherine C. Whitehouse, Western Maryland College; Arthur Wingfield, Brandeis University; Diane S. Woodruff, Temple University; and Paul T. P. Wong, Trent University.

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## SOME ADVICE TO STUDENTS

Our goal in writing this book is to provide you with a broad, informative look at contemporary psychology. We are eager for you to use the book successfully, so here we pass along some advice you might find useful.

**BECOME FAMILIAR WITH THE ORGANIZATION OF THE TEXT.** Being aware of the overall organization of the book will help guide you through it. After an introductory chapter describing the nature of psychology, the next seven chapters describe fundamental processes that occur within the person—biological bases of behavior, sensation, perception, consciousness of the world, learning, memory, and thinking. The next ten chapters of the book describe people in more complete terms—their development, their intelligence and intellectual capacity, their motivations and emotional states, and their personalities. We also include chapters on abnormal behavior and therapy. In the last two chapters, we describe social forces that affect individual behavior. Thus, in rough terms, the organization of the book moves from within the person, to a consideration of the person as a whole, and finally to a discussion of outside social forces that act upon the individual.

**BECOME FAMILIAR WITH THE FEATURES OF THE TEXT.** Each chapter has a similar organization with features designed to highlight different aspects of the material. There are usually five or six main topic headings. In addi-

tion, each chapter after the first contains three special features entitled Research Frontier, Controversy, and Applying Psychology. In Research Frontier you will become acquainted with a topic on the cutting edge of psychological research. In Controversy you will encounter issues that require further research and debate among psychologists. These two features show that psychology is not a fixed system of thought. Although past research has provided a foundation of knowledge, many issues are actively investigated and many ideas hotly contested. Finally, in Applying Psychology, you will see how psychological research encompasses many important, practical aspects of daily experience. In fact, most psychological questions arise from such experience.

**LOOK OVER EACH CHAPTER BEFORE YOU BEGIN READING.** Start by studying the chapter outline on the opening page of each chapter. Then skim through the chapter, looking at each heading and reading a bit here and there. You might also read the chapter summary, which lists the chapter's main points.

**FORCE YOURSELF TO THINK AS YOU READ.** Many students try to read too quickly. It is much more effective to read slowly and to think constructively as you read. When you come to a heading, ask yourself what topics are likely to follow. Note the logical connection between what you have just read and what you are about to read. At the end of the section look away from the book and try to summarize in your own words the central points. (If you cannot recall them at this point you will have difficulty later on.) Reread sections when your self-test shows that you did not comprehend the material the first time around.

**MAKE AN OUTLINE OF THE MATERIAL.** One way to read constructively is to outline the material in your own words, or at least to take notes on the important points. Another way is to underline critical passages with a marker for further study later.

**REREAD AND RELEARN MATERIAL.** Read a chapter once and then read other chapters or material from other courses before reading the chapter again. Reward yourself for studying, too. Set a reasonable goal for studying for a day, so that once you meet that goal, you can go to the movies, or whatever.

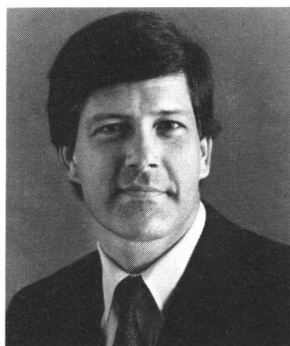
**BEGIN STUDYING FOR EXAMS WELL IN ADVANCE.** Feeling prepared will help relieve the test anxiety so many students experience. To prepare for exams you should test yourself by using the Study Guide available with the text.

Finally, if you have comments on the book, please write to us. We would enjoy hearing from you.

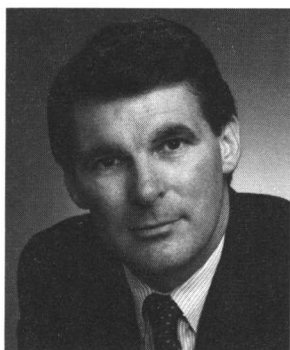
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# Brief Contents

---

## **PART ONE ■ FOUNDATIONS**

- 1 The Nature of Psychology 2
- 2 Biological Bases of Behavior 36

## **PART TWO ■ SENSATION, PERCEPTION, AND CONSCIOUSNESS**

- 3 Sensory Processes 82
- 4 Perception 124
- 5 Consciousness and Attention 158

## **PART THREE ■ LEARNING, MEMORY, AND COGNITION**

- 6 Conditioning and Learning 198
- 7 Remembering and Forgetting 234
- 8 Thought and Language 276

## **PART FOUR ■ DEVELOPMENT AND INTELLIGENCE**

- 9 Infancy and Childhood 314
- 10 Adolescence and Adulthood 358
- 11 Intelligence Tests and Mental Abilities 394

## **PART FIVE ■ MOTIVATION AND EMOTION**

- 12 Motivation 428
- 13 Emotion and Stress 462

## **PART SIX ■ PERSONALITY AND ABNORMAL PSYCHOLOGY**

- 14 Personality 494
- 15 Abnormality and Deviance 530
- 16 Therapies 566

## **PART SEVEN ■ SOCIAL BEHAVIOR**

- 17 Social Psychology 600
- 18 Social Issues 642

Appendix: An Introduction to Statistics 676

Glossary A1

References A21

Name Index A51

Subject Index A60

---

# Contents

---

---

## PART ONE

---

### FOUNDATIONS

<b>1</b>		
<b>THE NATURE OF PSYCHOLOGY</b>	<b>2</b>	
Defining Psychology	4	
Early Schools of Psychology	4	
<i>Structuralism: The Elements of Mental Life</i>	5	
<i>Functionalism: The Uses of Mind</i>	6	
<i>Behaviorism: Excluding Mind from Psychology</i>	7	
<i>Gestalt Psychology: Perception of the Whole</i>	8	
<i>Psychoanalysis: The Unconscious Mind</i>	9	
Current Approaches to Psychology	10	
<i>The Biological Approach</i>	10	
<i>The Behavioral Approach</i>	11	
<i>The Cognitive Approach</i>	12	
<i>The Psychoanalytic Approach</i>	13	
<i>The Humanistic Approach</i>	14	
<i>Levels of Explanation</i>	14	
Professional Roles in Psychology	16	
Research Methods in Psychology	19	
<i>Descriptive Research Techniques</i>	19	
		<i>Correlational Research</i> 22
		<i>Experimental Research</i> 24
		Research Issues 31
		<i>Use of Nonhuman Animals in Research</i> 31
		<i>Internal and External Validity</i> 31
		<i>Laboratory and Field Research</i> 32
		<i>Basic and Applied Research</i> 33
		<i>Ethics in Research</i> 34
		Summary 35
		Suggested Readings 35
<b>2</b>		
<b>BIOLOGICAL BASES OF BEHAVIOR</b>		<b>36</b>
Neurons and Transmission of Information		37
<i>Structure and Function of Neurons</i>		38
<i>Conduction of Information Within the Neuron</i>		39
<i>Synaptic Transmission</i>		43
<i>Transmitter Substances</i>		44
<i>Blood-Brain Barrier</i>		46
■ RESEARCH FRONTIER		
<i>The Effects of Dopamine</i>		47

Outline of the Nervous System 48

*The Central Nervous System* 48

*The Peripheral Nervous System* 48

The Spinal Cord and Brain Stem 51

The Limbic System 53

Cerebral Cortex 54

*The Sensory Cortex* 57

*The Motor Cortex* 58

*Association Areas* 58

■ CONTROVERSY

    Localization of Function 60

Hemispheric Specialization 61

*The Split-Brain Patient* 63

Other Evidence for Specialization 67

■ APPLYING PSYCHOLOGY

    Positron Emission Tomography (PET) 68

The Endocrine System 70

Evolution, Genetics, and Behavior 73

*Behavior Genetics* 74

Summary 79

Suggested Readings 80

PART TWO

SENSATION, PERCEPTION, AND CONSCIOUSNESS

SENSORY PROCESSES 82

From Sensation to Perception 83

*Classifying the Senses* 85

Vision 86

*The Physics of Light* 86

*The Eye* 88

*Context Effects in Vision* 93

Color Vision 95

*The Spectrum Revisited* 95

*Trichromatic Theory* 97

*Opponent-Process Theory* 98

■ APPLYING PSYCHOLOGY

    Are You Colorblind? 100

Audition 100

*The Physics of Sound* 100

*The Ear* 103

*Pitch and Loudness* 104

*Auditory Localization* 105

The Other Senses 106

*Smell* 106

*Taste* 109

*The Skin Senses* 110

*Pain* 111

■ RESEARCH FRONTIER

    Pain, Stress, and Endorphins 112

*Kinesthesia and Equilibration* 113

Psychophysics 114

*Thresholds* 114

*Psychophysical Scaling* 116

*Signal Detection Theory* 117

■ CONTROVERSY

    Is There a “Sixth Sense”? Testing for ESP 120

Summary 122

Suggested Readings 123

4

PERCEPTION 124

Perceptual Organization 126

*A Gestalt Demonstration* 126

*Grouping and Figure-Ground Principles* 127

Pattern Recognition 129

*Bottom-up Theories* 129

*Top-down Theories* 132

*Ambiguous and Reversible Figures* 134

*Subjective Contours* 134

Depth, Size, and Shape Perception 135

■ CONTROVERSY

    Are Mental Images Like Perceptions? 136

*Perception of Depth* 136

*Size, Shape, and the Perceptual Constancies* 140

Visual Illusions 142

<i>Illusions That Originate in the Receptors</i>	143
<i>Illusions That Originate in the Brain</i>	144
■ APPLYING PSYCHOLOGY	
<i>Illusions in the Real World</i>	148
The Role of Learning in Perception	150
<i>Restored Vision: Making the Blind See</i>	150
<i>Visual Deprivation</i>	151
<i>Effects of Visual Distortion on Perception</i>	152
<i>Perception in Infants</i>	153
■ RESEARCH FRONTIER	
<i>Infant Recognition of the Mother's Voice</i>	154
Summary	156
Suggested Readings	156
<b>5</b>	
<b>CONSCIOUSNESS AND ATTENTION</b>	<b>158</b>
What Is Consciousness?	159
Attention and Consciousness	161
<i>Selective Attention</i>	161
<i>Models of Attention</i>	163
<i>Subliminal Perception</i>	165
<i>Automatic and Controlled Processing</i>	166
■ RESEARCH FRONTIER	
<i>Subliminal Perception</i>	166
Hemispheric Specialization and Consciousness	170
<i>The Split-Brain Patient</i>	170
<i>Implications of the Two Types of Consciousness</i>	172
Sleep and Dreams	173
<i>The Study of Sleep</i>	174
<i>A Night of Sleep</i>	176
<i>Why Do We Sleep?</i>	177
<i>Why Do We Dream?</i>	180
■ APPLYING PSYCHOLOGY	
<i>Sleep Disorders</i>	184
Hypnosis	185
■ CONTROVERSY	
<i>Does Hypnosis Improve Memory Retrieval?</i>	186
Drugs and Consciousness	189
<i>Depressants</i>	189
<i>Stimulants</i>	191

<i>Hallucinogens</i>	192
<i>A Caution</i>	193
Reprise: Conscious Awareness and Behavior	194
Summary	195
Suggested Readings	196

## PART THREE

### LEARNING, MEMORY, AND COGNITION

<b>6</b>	
<b>CONDITIONING AND LEARNING</b>	<b>198</b>
Classical Conditioning	200
<i>Pavlov's Experiments</i>	201
<i>Examples of Classical Conditioning in Human Behavior</i>	203
<i>Classical Conditioning Phenomena</i>	204
<i>When Does Classical Conditioning Occur?</i>	209
■ APPLYING PSYCHOLOGY	
<i>Taste Aversions and Cancer Patients</i>	211
Instrumental Conditioning	212
<i>Thorndike's Puzzle Box</i>	212
<i>The Skinner Box and Operant Behavior</i>	213
<i>Behavior and Consequence</i>	214
<i>Conditions of Reinforcement</i>	215
<i>Generalization and Discrimination</i>	218
<i>Negative Reinforcement</i>	219
<i>Punishment</i>	221
■ CONTROVERSY	
<i>Two Views on Helplessness</i>	224
Cognitive Perspectives on Learning	224
<i>Insight</i>	225
<i>Latent Learning and Cognitive Maps</i>	226
■ RESEARCH FRONTIER	
<i>Spatial Memory</i>	228
<i>Expectancies</i>	229
Observational Learning	230
Summary	232
Suggested Readings	233

<b>7</b>		<b>8</b>	
<b>REMEMBERING AND FORGETTING</b>	<b>234</b>	<b>THOUGHT AND LANGUAGE</b>	<b>276</b>
Remembering: An Overview	236	Problem Solving	277
<i>Approaches to Memory</i>	236	<i>Formulating the Problem</i>	278
<i>The First Studies of Memory</i>	237	<i>Generating Possible Solutions</i>	279
Storage Systems	238	<i>Evaluating Outcomes</i>	280
<i>The Sensory Stores</i>	238	<i>Shortcuts to Problem Solving</i>	281
<i>The Short-term Store</i>	241	Reasoning Skills	283
<i>The Long-term Store</i>	243	<i>Concept Identification</i>	283
■ CONTROVERSY		<i>Inductive Reasoning</i>	285
Does Photographic Memory Exist?	244	■ RESEARCH FRONTIER	
Recoding in Memory	246	Cognitive Expertise	286
<i>Organization and Verbal</i>		<i>Deductive Reasoning</i>	287
<i>Recoding</i>	247	<i>Visual Thinking</i>	289
<i>Imaginal Recoding</i>	248	Making Decisions	291
<i>Levels of Processing</i>	249	<i>Cognitive Biases</i>	291
Decay and Interference	251	The Nature of Language	294
Retrieval Processes	253	<i>Basic Units of Sound and Meaning</i>	294
<i>Retrieval Cues</i>	254	<i>The Structure of Language</i>	296
<i>The Encoding Specificity Hypothesis</i>	255	■ APPLYING PSYCHOLOGY	
<i>Distinctiveness as an Aid</i>		Humor in Linguistic Ambiguity	298
<i>to Retrieval</i>	257	<i>The Meaning of Language</i>	298
<i>Retrieval from Semantic Memory</i>	258	Cognitive Processes in Language Comprehension	300
Mnemonic Devices	261	<i>Remembering the Meaning</i>	301
<i>The Link Method</i>	262	<i>The Role of Context</i>	301
<i>The Method of Loci</i>	262	<i>Understanding as a Constructive Process</i>	303
<i>The Peg Method</i>	263	Linguistic Determinism	304
<i>The PQ4R Method</i>	264	Nonhuman Communication	306
Remembering as Reconstruction	265	Summary	309
<i>Schemas</i>	266	■ CONTROVERSY	
<i>The Soap Opera Effect</i>	267	Can Chimpanzees Learn to Use Language?	310
■ APPLYING PSYCHOLOGY		Suggested Readings	311
Eyewitness Testimony	269		
Amnesia	270		
<i>The Case of H.M.</i>	270		
<i>Korsakoff's Syndrome</i>	271		
<i>Amnesics' Hidden Memories</i>	271		
■ RESEARCH FRONTIER			
Normal Verbal Memory in Amnesics	272		
Summary	274		
Suggested Readings	275		
		<b>PART FOUR</b>	
		<b>DEVELOPMENT AND INTELLIGENCE</b>	
		<b>9</b>	
		<b>INFANCY AND CHILDHOOD</b>	<b>314</b>
		Understanding Human Development	315