



Fundamentals of **PSYCHOLOGY**

AUDREY HABER • RICHARD P. RUNYON

Fourth Edition



**FOURTH
EDITION**

FUNDAMENTALS OF PSYCHOLOGY

Audrey Haber / Richard P. Runyon

Garden State Rehabilitation Hospital

RANDOM HOUSE / NEW YORK



Fourth Edition

9876

Copyright © 1974, 1978, 1983, 1986 by Newbery Award Records, Inc.
All rights reserved under International and Pan-American Copyright Conventions. No part of this book may be reproduced in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from the publisher. All inquiries should be addressed to Newbery Award Records, Inc., 201 East 50th Street, New York, N.Y. 10022. Published in the United States by Newbery Award Records, Inc., a subsidiary of Random House, Inc., New York and simultaneously in Canada by Random House of Canada Limited, Toronto. Distributed by Random House, Inc.

Library of Congress Cataloging-in-Publication Data

Haber, Audrey.

Fundamentals of psychology.

Bibliography: p.

Includes index.

1. Psychology. I. Runyon, Richard P. II. Title.

[DNLM: 1 Psychology. BF 121 H114f]

BF121.H16 1986 150 85-19332

ISBN 0-394-35480-X

Cover: Photo by Lawrence Migdale.

Manufactured in the United States of America

FUNDAMENTALS OF PSYCHOLOGY

**DEDICATED TO DAVID SCOTT,
LAURIE BETH, MINDY ANN,
AND LARRY WAYNE JASSENOFF;
MARIBETH, TOMMY, AND
RICH RUNYON; NANCY STOUT
AND AMY GAIENNIE**

PREFACE

In the preface to the first edition of *Fundamentals of Psychology*, we noted that humanity was experiencing one of the most challenging periods in its history. Now, more than a decade later, we find that the population continues its explosive growth; large groups of people remain politically disenfranchized; much of humanity goes to bed hungry; nations continue to posture menacingly; and even brilliant advances in technology threaten to engulf us in their toxic residues. Yet, for many of us, technology has brought living standards unimagined by our forebears. But even these benefits do not necessarily enrich the quality of our inner lives. Unhappiness is found among the affluent as well as among the poor. What is the answer? The next great frontier may not be found in the vast outer space of distant stars and galaxies. Rather, it may lie in discoveries about our inner space—our aspirations and motivations, our capabilities and limitations, our stresses and emotions, and the reach of our intelligence and imagination. These are all the concerns of the science we call *psychology*.

In the pages ahead, we are going to take a brief excursion into the largely unexplored domain of psychology. We will view a panorama of different psychological facts, theories, and speculations. The terrain will be enormously varied, from the functioning of the brain in behavior to the social forces that shape and give meaning to our lives. We will see that psychology is a complex, dynamic, restless, and growing field.

NEW TO THIS EDITION

In response to suggestions made by a number of previous users and reviewers, we have made some organizational changes that will allow for a more logical method of teaching psychology and for greater student understanding. First, we moved the former chapter 5 (Physiological Foundations of Behavior) forward to become chapter 2 in this edition. Second, we condensed our coverage of developmental psychology from two chapters to one in order to give it equal weight with other topic areas.

In this edition, as in previous editions, we have attempted to present the most recent and exciting work of psychologists in a straight-forward and relevant manner, avoiding the jargon that can strangle effective communication. We want students to gain an appreciation of the scope of psychology so that, if they enter other fields, they will recognize possible applications of psychological methods while remaining aware of their limitations. For those students majoring in the field, we have attempted

a coverage that is broad and deep enough to enable them to look toward future courses in psychology with confidence and eagerness.

With these considerations in mind, we have also added several features to this edition:

- **On-the-leading-edge boxes:** Here we look at breaking stories on the cutting edge of psychological investigations. The purpose of these boxes is to provide tentative glimpses into the future rather than twenty-twenty vision of the finished products of past deliberation and research. We will look at such ongoing developments as appetite suppressants and stimulants manufactured in our own bodies; a possible skin test for proneness to depression; studies that challenge the core assumptions of traditional economic theory; and evidence of learning in the womb by human and nonhuman species, to name a few. Keep in mind that these leading-edge investigations are subject to much revision and fine-tuning in the future. A few may even turn out to be false leads that will be discarded eventually.
- **Learning exercises:** Our text seeks to challenge students to probe behind surface veneers, to consider evidence, to formulate choices, and to make discoveries on their own. It is amply supplied with questions and activities that require a response from the learner. To illustrate, rear-end vehicular collisions take a dreadful toll of lives and property on our nation's highways each year. Can we make use of what we know about vision and perception of relative motion to design visual displays that alert a driver to a potentially hazardous condition?
- **Applications:** Knowledge is of little use unless it ultimately impacts on our daily lives, enriching our experiences and broadening the base of our options. The applications sections, highlighted throughout the book, are designed to show the relevance of psychological investigations and theorizing in our everyday lives. To use an example, it has been found that, when responsibility is spread out (diffused) over many individuals, there tends to be a reduction of effort and dilution of accountability of the participants. As a practical application, it is suggested that group decision-making processes might best be advanced by assigning clearly defined and specific responsibilities to each member of the group.
- **Case Examples:** These are slices of reality drawn from real life. Appearing throughout the book, the case examples are intended to personalize and to provide insights into a variety of psychological phenomena. Unlike most texts, the Case Examples are not restricted to material drawn from the abnormal literature. They are selected from a wide range of sources, including industrial, sensory, social, and developmental psychology.

In addition to these special features, we have made a special effort to update our references so that many topics of current interest are presented. We personally contacted a number of seminal researchers and theoreticians in psychology to obtain summaries and preprints of research in progress. As a result, a large proportion of our references date from 1980 right through to the present. Moreover, our search of the literature was not restricted to journals published in the United States. We made a

special effort to sample literature of many countries, including Australia, Canada, Japan, New Zealand, the United Kingdom, and West Germany.

A textbook is always the result of a collaborative effort by many people, from the researchers and theoreticians who provide the basic information, to the members of the production team who assemble the bits and pieces into a whole book. Specifically, we would like to give special thanks to our editorial staff at Random House—Mary Falcon who provided encouragement to undertake the revision, Sylvia Shepard for her wealth of ideas and suggestions, Anna Marie Muskelly for supervising the production of a fine looking book, Irene Pavitt for copyediting, and Kathy Bendo for photo research.

We would also like to express our indebtedness to our many colleagues who have provided the thoughtful studies and theoretical papers that provide the very life-blood for this book. Finally, we wish to acknowledge the following reviewers, who provided insights and suggestions that have guided the fourth edition of *Fundamentals of Psychology*: Frederick P. Gault, Western Michigan University; Theresa Tyler Holt, Middlesex Community College; Laurence D. Rust, The State University College at Potsdam, New York; and Joseph E. Trimble, Western Washington University.

CONTENTS

1 WHAT IS PSYCHOLOGY? 1

What Is Psychology? 1

BOX 1.1: The SQ 3R Method 3

Objectivity 3

Systematic Observation 4

Psychology: A Long Past but a Short History 5

The Many Faces of Psychology 10

BOX 1.2: Behavior Studies Challenge Economic Theory 11

BOX 1.3: Who's to Blame? 13

Methods of Psychology 14

Experimental Method 14

BOX 1.4: Conducting Research 18

Naturalistic Observation 19

Case-History Method 22

Survey Method 22

Assessing Information Gathered Through Psychological Methods 24

Summary 24

Terms to Remember 25

Methods of Studying the Nervous System 34

Chemical Methods 35

Brain-Tissue Grafts 35

BOX 2.1: A Clue to Drug Addiction 36

Destruction 36

Electrical Stimulation 37

Electroencephalograph 38

The Brain 39

The Cerebral Cortex 40

BOX 2.2: Recovery from Massive CNS Injury 43

The Subcortical Structures 50

The Cerebellum 53

The Spinal Cord 53

Homeostasis 53

The Central Nervous System and the Endocrine Glands 53

The Peripheral Nervous System 55

BOX 2.3: Biological Markers for Homosexuality 56

The Autonomic Nervous System 56

Summary 59

Terms to Remember 60

2 PHYSIOLOGICAL FOUNDATIONS OF BEHAVIOR 26

The Nervous System 27

Basic Units of Reception, Neural Conduction, and Action 28

Receptors and Effectors 28

The Neuron 29

The Synapse 31

The Reflex Arc 32

3 LEARNING 61

What Is Learning? 62

Classical Conditioning 64

Conditioning Procedure and Acquisition 64

Extinction and Spontaneous Recovery 66

Stimulus Generalization 68

Discrimination Learning 70

Higher-Order Conditioning 71

Practical Implications of Classical Conditioning 72

Operant Conditioning 73

A Laboratory Model of Operant

Conditioning 74

Reinforcement 76

Shaping of Operant Behavior 79

Extinction, Spontaneous Recovery, and Stimulus
Generalization 79**BOX 3.1:** Monkeys as Aides to Quadruplegics 80

Operant Conditioning to Break Habits 83

Discrimination Learning 84

Secondary Reinforcement 84

Partial Reinforcement 87

Punishment 91

Practical Implications of Operant
Conditioning 94**Observational Learning 95****Summary 97****Terms to Remember 98****4 REMEMBERING AND
FORGETTING 99****What Is Memory? 99****Information Processing: Types of
Memory 100**

Sensory Buffer 100

Short-Term Memory (STM) 100

Intermediate-Term Memory (ITM) 103

Long-Term Memory (LTM) 103

BOX 4.1: Biological Mechanisms of LTM 105**The Three R's of Retention 107**

Recall 107

Recognition 108

Relearning 110

Theories of Forgetting 113

Disuse Theory 113

Trace Transformation 113

Interference Theory 114

Motivated Forgetting 116

**Factors Affecting Learning and
Remembering 116**

Characteristics of the Task 117

Method Variables 120

Constructive Memory 122**Summary 124****Terms to Remember 125****5 LANGUAGE AND THE
THOUGHT PROCESS 126****What Are Cognitive Processes? 126****BOX 5.1:** ERP's and Cognitive Processing 126**What Is Language? 127**

The Structure of Language 131

The Acquisition of Language 133

BOX 5.2: The Original One-Womb Schoolhouse 135

Nonhuman Language 136

Theories of Language Development 139

BOX 5.3: Can Dolphins Acquire Language? 140**Concept Formation 142****The Thought Processes 145**

Imagery in Thinking 146

Kinds of Thinking 147

Summary 156**Terms to Remember 157****6 SENSATION AND
PERCEPTION 158****Measuring Sensation 159****The Senses 161**

Vision 161

Hearing 167

Other Senses 171

What Is Perception? 171

Attention 171

Perceptual Organization 177

The Constancies 181

Distance and Depth Perception 183

Illusions 187

Factors Influencing Perception 189

BOX 6.1: Do You Know How Good a Night's Sleep
You Really Had? 192**Summary 193****Terms to Remember 194****7 STATES OF
CONSCIOUSNESS 195****BOX 7.1:** Memory and Consciousness 196**The Brain and Different Modes of
Consciousness 197**

BOX 7.2: A Deviated Septum May Be Dangerous to Your Thinking 198

Sleep 199

NREM Sleep—From Shallow to Deep 201

To Sleep, Perchance to Dream 203

Possible Functions of REM Sleep 205

Disturbances of Sleep 208

Meditation 210

Biofeedback 213

BOX 7.3: Correcting Curvature of the Spine Through Biofeedback 214

Hypnosis 217

Chemical States 221

BOX 7.4: Altered States After Surgery 222

Alcohol 223

Hallucinogens 224

Marijuana 226

Heroin 228

Amphetamines and Barbiturates 228

Cocaine 229

Summary 231

Terms to Remember 232

8 MOTIVATION AND EMOTION 233

Measurement of Motivational States 233

General Activity Level 235

Performance Rate 235

Overcoming an Obstacle 235

Selection Among Goals 236

Biological Drives 236

Hunger Drive 236

BOX 8.1: A Natural Appetite Suppressant? 241

Thirst Drive 242

Drive to Avoid Pain 243

BOX 8.2: Conscious Control of Pain 243

Sex Drive 244

Stimulus Needs 245

Learned Motivation 248

Aggression 249

Anxiety 249

Achievement 249

Affiliation 252

Self-actualization 253

Emotions 256

What Is an Emotion? 256

Physiological Bases of Emotion 259

Physiological Theories of Emotion 259

BOX 8.3: Can You Fool a Lie Detector? 260

Situational and Cognitive Factors 263

Developmental and Learned Aspects of Emotion 266

Appraisal of Emotion in Others 267

Summary 270

Terms to Remember 271

9 STRESS AND COPING 272

Stress 272

Frustration 275

Motivational Conflict 276

Approach-Approach Conflict 277

Avoidance-Avoidance Conflict 278

Approach-Avoidance Conflict 278

Multiple Approach-Avoidance Conflict 280

Frustration and Aggression 281

BOX 9.1: Assistance For the Victims of Violent Crime 283

Punishing Aggressive Behavior 284

Expressing Aggression 284

Releasing Aggressive Feelings 285

Coping with Stress 286

General Adaptation Syndrome 286

Psychosomatic Disorders 287

BOX 9.2: Health Psychology and Behavioral Medicine 288

BOX 9.3: Classically Conditioned Histamine Release 290

Defense Mechanisms 293

Positive Action 299

Summary 300

Terms to Remember 301

10 DEVELOPMENT 302

Development: A Lifelong Process 302

Genetics 304

Prenatal Development	307
From Fertilized Egg to Birth	307
Maturation	310
Critical Periods	312
Social Attachment	312
The Developing Child	317
Motor Development	317
Cognitive Development	318
Infancy	323
Early Childhood	325
Middle Childhood	325
BOX 10.1: The Media, Childhood Fears, and Level of Cognitive Development	326
Adolescence and Adulthood	327
Moral Development	330
Psychosexual Development and Sexuality	333
Psychosexual Stages	333
Sexuality	335
Sex Roles	338
Personality and Social Development	340
BOX 10.2: Infants and Parents in Rhythm	341
Psychosocial Development	345
Stages of Psychosocial Development	345
BOX 10.3: Sex-Role Orientation and Resolving Stage 4 and 5 Crises	349
BOX 10.4: The Use of Metaphors to Describe Development	350
Dying and Death	351
Summary	353
Terms to Remember	354

11 PSYCHOLOGICAL AND EDUCATIONAL ASSESSMENT 355

What Is Intelligence?	355
Requirements of a Test	357
Objectivity	357
Reliability	357
Validity	359
Standardization	359
Measuring Intelligence	360
Stanford-Binet Test of Intelligence	360
The Wechsler Tests	363
Group Tests	363

The Value of Intelligence Testing	365
The Tyranny of Intelligence Testing	369
The Constancy of IQ	370
Intelligence: Nature or Nurture?	372
Extremes of Intelligence	375
The Mentally Retarded	375
The Mentally Gifted	378
Creativity and Intelligence	379
BOX 11.1: Mathematics in the Fast Lane	379
Aptitude and Special Tests	381
Assessment of Personality	384
Interviews	385
Rating Scales	387
Personality Inventories	387
Projective Techniques	390
Summary	393
Terms to Remember	394

12 PERSONALITY 395

What Is Personality?	395
Factors Affecting Personality Development	396
Theories of Personality	400
Trait Theories	401
Type Theories	405
Psychoanalytic Theories	407
Social Learning Theories	412
BOX 12.1: The Self-Efficacy Mechanism	416
Humanistic Theories	418
Cognitive Theories	421
Summary	422
Terms to Remember	423

13 ABNORMAL BEHAVIOR 424

What Is Abnormal?	424
A Note of Caution	427
Anxiety Disorders	430
Anxiety States	431
Obsessive-Compulsive Disorders	432

Phobic Disorders 434

Dissociative Disorders 436

Somatoform Disorders 437

Somatization Disorders 437

Conversion Disorders 438

Personality Disorders 439

The Antisocial Personality 439

Psychosexual Disorders 442

Psychosexual Dysfunctions 442

The Eating Disorders 446

Anorexia 446

Bulimia 446

Affective Disorders 447

Manic Episodes 448

Major Depressive Episodes 449

BOX 13.1: A Skin Test for Risk of Depression? 451

Mixed Bipolar Disorders 451

BOX 13.2: Seasonal Affective Disorder (SAD) and
Phototherapy 453

Schizophrenic Disorders 452

Organic Mental Disorders 457

BOX 13.3: Predicting Adult Schizophrenia from
Childhood Information 457

Dementia 459

Substance Abuse 460

Summary 462

Terms to Remember 463

14 TECHNIQUES OF THERAPY 464

Therapies 465

Individual Psychotherapies 466

Psychoanalysis 466

Person-Centered Therapy 470

Rational-Emotive Therapy 473

Gestalt Therapy 474

Behavior Therapy 475

Group Psychotherapies 481

Psychodrama 482

BOX 14.1: Group Relaxation Techniques for the
Treatment of Headaches 483

Encounter Groups 484

Family Therapy 485

Self-Help Groups 486

Community Mental Health 487

Medical Therapies 488

Electroconvulsive Therapy 489

BOX 14.2: Cholecystokinin Octapeptide (CCK-8) as
an Anti-Amnesiac? 490

Chemotherapy 490

Psychosurgery 492

BOX 14.3: REM Deprivation and Endogenous
Depression 492

A Word About Therapies 493

Is Psychotherapy Effective? 494

Summary 495

Terms to Remember 496

15 SOCIAL PSYCHOLOGY 497

The Individual in Society 497

Culture and Society 498

Socialization and Roles 499

Judging Others—Attribution Theory 503

Consistency 504

Consensus 504

Freedom from External Pressures 505

Interpersonal Attraction 506

Studying Interpersonal Attraction 506

Similarity 507

Proximity 508

Familiarity 508

Physical Attractiveness 508

How Groups Influence Behavior 509

Conformity 510

Obedience 512

Communication 515

Group Action 516

Anonymity and Bystander Apathy 520

Attitudes 523

The Nature of Attitudes 523

Development of Attitudes 525

Cognitive Dissonance 526

Prejudice 528

BOX 15.1: Social Cognition, Schemata, and
Stereotypes 529

Changing Attitudes 530

Summary 538

Terms to Remember 539

APPENDIX ON STATISTICS 541**What Is Statistics? 541**

Definitions of Terms Commonly Used in
Statistics 542

Quantifying the Data 543

Descriptive Statistics 544

Graphical Statistics 546

Measures of Central Tendency 547

Measures of Dispersion 549

The Concept of Correlation 552

Inferential Statistics 553

Sampling 554

Significance 554

Terms to Remember 556

Glossary 557

Bibliography 561

Acknowledgments 581

Name Index 583

Subject Index 591

1

WHAT IS PSYCHOLOGY?

WHAT IS PSYCHOLOGY?

Objectivity

Systematic Observation

PSYCHOLOGY: A LONG PAST BUT A SHORT HISTORY

THE MANY FACES OF PSYCHOLOGY

METHODS OF PSYCHOLOGY

Experimental Method

Naturalistic Observation

Case-History Method

Survey Method

Assessing Information Gathered Through Psychological Methods

SUMMARY

TERMS TO REMEMBER

WHAT IS PSYCHOLOGY?

How often have you heard someone claim to be a “good psychologist”? Have you ever made this claim? Have you ever “used psychology” or “psyched someone out”? Perhaps you have described someone’s problems as “psychological”?

It is virtually impossible to pick up a newspaper or magazine without coming across some claim to psychological insight or some reference to an individual who is a “good psychologist,” as demonstrated by sales ability, acumen in human relations, insight into personal problems, and so forth. In addition, newspapers and magazines frequently carry articles that deal with such psychological phenomena as personality, emotional problems, drug use and abuse, racism, violence, and sexuality.

Many people feel that they have some special knowledge of psychology, whether or not they have studied it. It is interesting that this claim is rarely, if ever, made about other scientific fields. How often have you heard anybody who has not studied extensively in the field claim to be a “good biologist,” or to “use” chemistry or physics? It is quite natural for people to feel that they have a certain degree of expertise in psychology. After all, everybody has had to grow and interact with other people. In the course of everyday living, we all make observations of ourselves and of other people, frequently allowing these observations to flavor our relationships. For example, we may recognize that a certain acquaintance has a “short fuse” and temper our relationship with her accordingly. Or we may become so sensitive to a friend’s pressing problems that we willingly spend hours of our time quietly listening to him “bare his chest.” Examples of this sort could be cited almost without limit. The truth of the matter is that we are constantly making decisions based on our expectations about other people. Is this psychology?

Psychology

The science of behavior.

Behavior

In the most general sense,
anything an organism does.

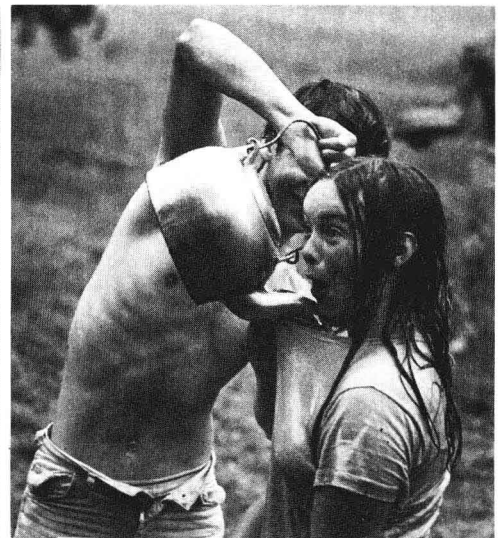
What is psychology? **Psychology** is defined as the science of **behavior**. Let us pause for a moment and reflect on the implications of this definition. What do we mean by behavior?

Is sleeping behavior? Is reading this book behavior? What about thinking, daydreaming, going to the movies, driving a car, attending a lecture, smoking a "joint," "shooting speed"? The answer to all of these questions is "Yes"; these things are all examples of behavior. And, as you can see, not only is "behavior" a very comprehensive term, but it is impossible for a living organism not to be "behaving." Even when asleep an organism is behaving. As you read this textbook, you are behaving. We, as authors, are especially interested in this last behavior. Our textbook presents the fundamental principles of behavior, and we are concerned with one specific aspect of your behavior as you read the book: your achieving an understanding of these fundamental principles (see Box 1.1).

Clearly, the basic subject matter of psychology, behavior, is of vital concern to all of us. It is perhaps because of this that "psychology" has become a household word. But the mere fact that we attach the word "psychology" to what we do does not confer any special significance upon our actions, and it does not make us psychologists. Many of us are quite competent to drive a car and maneuver it through heavy traffic, snow, sleet, and rain. Does this mean that we understand the car? The true depth of our understanding may be revealed with shocking suddenness the moment the car breaks down and we are forced to call for service. Likewise, we may become aware of our own limitations as "psychologists" only when our lives, or the lives of others,

Living organisms are always behaving, and the study of psychology is the study of behavior. When we look at behaviors, it is natural for us to add our own interpretations to what we see, but psychologists must strive for objectivity in making their observations.

(Left) M. Shostak/Anthro-Photo; (center) Diego Goldberg/Sygma; (right) Hella Hammid/Photo Researchers.



BOX 1.1 ON THE LEADING EDGE

The SQ 3R Method

Many students are probably aware of the fact that their study techniques are inefficient and could stand improvement. Here's one technique that seems to "work." It is called the **SQ 3R method**. This method provides a technique which, if implemented conscientiously, will almost certainly improve your performance. It will, in effect, make you your own instructor. At first, this method may seem to take more time and effort than your previous method did. But remember that the SQ 3R method itself has to be learned, and this learning requires time and effort. With practice, you should be able to use the SQ 3R method as easily as any well-learned and thoroughly practiced skill.

The method consists of five stages: *survey*, *question*, *read*, *recite*, and *review*.

During the *survey* phase, you should look over the main headings of a unit of study to gain an overview of the material and note the major points to be developed. This survey should take just long enough for you to see the main topics around which the material is organized. If there is a summary, reading it is worthwhile, because it may also reveal something about the organization of the chapter.

Your actual work begins with the *question* stage. You should rephrase the first heading into the form of a question. For example, if the first heading in a chapter is "Factors within the Individual," you should ask yourself, "What are the factors within the individual that will influence the efficiency of learning and remembering?"

By questioning yourself in this way, your curiosity will be aroused, you will be able to bring your own previous knowledge into the picture, and you will be more likely to recognize the important points.

Now *read* the material in that section with a view toward answering the question you previously raised. This stage should involve an active search for the answer rather than a passive plodding through the written material.

Once you have read the section, put the book aside and attempt to *recite* in your own words the main points of what you have just read. This recitation can be either oral or written. If you cannot do this, you should reread the section until you are successful at reciting the important ideas. You should aim at brevity. However, do not try to memorize the entire section. The recitation phase is probably the most significant aspect of the SQ 3R method, for it is this behavior that is commonly required in class and on examinations.

After you have repeated this procedure for each headed section, you should *review* the entire lesson by looking over whatever notes you have taken. Reviewing serves as a check on memory and also pinpoints areas for further study.

SQ 3R method

A method of studying that involves five stages: survey, question, read, recite, and review.

suddenly become disordered. This does not mean that psychologists are concerned only with "breakdowns"; indeed, much of their interest is directed toward understanding the smooth, integrated functioning of the intact organism.

Two characteristics of the professional psychologist's approach to the study of behavior distinguish it from the casual observations of the non-professional. The psychologist's method of inquiry is both *objective* and *systematic*.

Objectivity

When most of us observe behavior, we tend to inject our own personal biases into any observations we make. We see the world through eyes that are colored by our own likes and dislikes and by the beliefs, attitudes, and