

# CONTENTS

## 1. INTRODUCTION: THE SCIENCE OF BEHAVIOR 1

- Psychology and Other Sciences, 2*
- Psychology as a Science, 3*
- An Example of a Psychological Investigation, 5*
- The Point of View of This Book, 8*
- Summary, 9*

## 2. BASIC COMPONENTS OF BEHAVIOR 11

- Basic Components of the Transmission System, 13*
- Receptors, 15*
- Effectors, 20*
- The Connecting System: Nerve Pathways, 23*
- Summary, 27*

## 3. FUNCTIONS OF THE BEHAVIOR SYSTEM 30

- Discrimination, 31*
- Learning and Memory, 32*
- Memory for Scales and Models—Identification, 36*
- Memory for Motor and Verbal Sequences, 38*
- Memory for Concepts, 41*
- Summary, 47*

**4. MOTIVATION** **50**

*Homeostasis and Motivation, 50*  
*Primary Drives, 55*  
*Acquired Motives, 64*  
*The Effectiveness of Incentives, 73*  
*Frustration and Conflict of Motives, 82*  
*Motivation and Performance, 85*  
*Summary, 88*

**5. HUMAN ABILITIES** **90**

*The Concept of Ability, 91*  
*The Development of Basic Abilities, 95*  
*Identifying Basic Abilities, 100*  
*The Distribution of Abilities, 106*  
*Some Basic Abilities and Their Measurement, 115*  
*Intelligence, 133*  
*Summary, 139*

**6. LEARNING AND RETENTION** **142**

*The Learning of Simple Habits, 143*  
*Conditions of Simple-Habit Learning, 148*  
*Extinction, 151*  
*The Learning of Motor Skills, 153*  
*Learning Verbal Sequences, 155*  
*Identification Learning, 159*  
*Transfer of Training, 161*  
*Retention, 167*  
*Summary, 176*

**7. DISCRIMINATION AND IDENTIFICATION 178**

*Discrimination, 179*  
*Visual Discrimination, 181*  
*Discrimination in Hearing, 187*  
*Discrimination in the Skin Senses, 192*  
*Discrimination by Other Senses, 194*  
*Identification, 195*  
*Identification of Distance and Depth, 197*  
*Other Visual Identifications, 206*  
*Identification in the Other Senses, 210*  
*Factors Influencing Scales and Models, 213*  
*Summary, 216*

**8. MOTOR SKILLS 219**

*Abilities and Motor Skills, 221*  
*Motor Skills and Response Capacities, 223*  
*Speed of Reaction, 224*  
*Force of Reaction, 228*  
*Precision of Response, 231*  
*Motor-Skill Sequences, 235*  
*The Learning of Motor Skills, 242*  
*Transfer of Training in Motor Skills, 253*  
*Retention of Motor Skills, 260*  
*Summary, 261*

**9. CONCEPTS AND THINKING 263**

*Concepts and Symbols, 264*  
*Generalizing with Concepts, 268*  
*Thinking, 271*  
*Problem-Solving, 272*

*Invention, 283*  
*Some Conditions Affecting Problem-Solving, 285*  
*Summary, 290*

**10. SOCIAL BEHAVIOR 293**

*Cultural Influences, 294*  
*Influences of Social Structure, 296*  
*Social Class, 299*  
*Group Behavior, 302*  
*Interpersonal Relations in Groups, 308*  
*Morale, 316*  
*Leadership, 318*  
*Organizational Factors, 330*  
*Attitudes, 332*  
*Summary, 338*

**11. JOBS AND PERSONNEL SELECTION, I 340**

*Occupations and Jobs, 341*  
*Job Analysis, 344*  
*Selection of Personnel, 350*  
*Psychological Tests, 354*  
*Summary, 366*

**12. JOBS AND PERSONNEL SELECTION, II 369**

*The Application Blank, 369*  
*The Employment Interview, 373*  
*Evaluation of Job Proficiency, 377*  
*Types of Proficiency Measures, 378*  
*Summary, 391*

**13. TRAINING 394**

*Principles in the Design of Training, 398*  
*Training Media, 403*  
*Verbal Media: Lectures and Books, 403*  
*Audio-Visual Media, 407*  
*Training Devices, 415*  
*On-the-Job Training, 424*  
*Case Method, Group Discussion, and Role-Playing, 428*  
*Summary, 430*

**14. ENGINEERING PSYCHOLOGY 433**

*Man-Machine Systems, 434*  
*Human Behavior and Equipment Design, 437*  
*Design Problems Related to Human Limitations, 438*  
*Job Simplification in Design of Equipment, 446*  
*Some Examples of Job Simplification, 452*  
*The Design and Development of New Systems, 461*  
*Summary, 464*

**REFERENCES CITED IN THE TEXT 469**

**AUTHOR INDEX 479**

**SUBJECT INDEX 483**