GENERAL PSYCHOLOGY

By

WALTER S. HUNTER

Professor of Psychology, University of Kansas

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

PREFACE

To some of us the preface of a textbook is one of the most interesting of its features. There the author puts aside his air of instruction and authority, lays bare his hidden complexes, his morbid fears, and erects defense mechanisms against the many critics that of course his work must find. In the present instance I have adhered closely to the subject-matter and method which have proved successful in my own semester courses. I have found that students desire more than general formulas and principles. They are far more interested in accounts of experimental facts and procedures and are willing to leave the other for the manuals of advanced students. (The actual student, of course, is willing to leave it all to someone else, but since he must choose I find that he prefers the concrete facts.) The present book seeks to meet this situation and still remain a textbook and not become a treatise. It has been written in the conviction that too much stress is placed upon normal adult psychology (pure psychology) in our introductory courses. In many if not in most cases these courses are meant by the department and college administrations to give a comprehensive view of the field as well as to furnish specific training in the science. This demand is not only sound from the point of view of culture, but it is important in the resulting view of the science. Psychology is far more than normal adult psychology. Yet many of its readers retain the impression that the chief topic is sensation and space perception. The present book seeks to forestall these misconceptions in the student by presenting a general survey of the science while still stressing the customary side of the subject. In my opinion this procedure becomes still more valuable when it is remembered that the

great majority of students acquire all of their technical psychology from the introductory courses. The chapters of Part I are not intended as complete summaries of the respective fields concerned. They seek rather to stress typical problems illustrative of the scope of psychology. The chapter on "Animal Psychology" is unfortunately the least well-rounded and comprehensive because much that might be written there has been deferred to Part II, where the topics of instinct, habit-formation, and association are discussed. The book is so arranged that, in teaching, Part I may either precede or follow Part II. Whichever method is used, one is certain to see merit in the alternative procedure. My own experience favors the sequence as given in the text. To take up "Animal," "Individual and Applied," "Abnormal," and "Social and Racial Psychology" first is to secure the student's interest at once, if it can be secured, through a study of the very concrete and the practical. It is true that if these topics came last in the course they might be more adequately understood; but the same thing is true for "Normal Adult Psychology," with the added reason that practically a teacher is so hurried at the close of the semester that topics left for the last are often slurred over and telescoped. In using the material of Part I in a semester course I have contented myself with assigned readings and approximately two lectures on each chapter. This can be elaborated more fully in longer courses, and in shorter courses Part I can be used as outside reading matter with Part II the subject for lecture.

From the theoretical standpoint our position is one of a combination of behaviorism and structuralism. I see no need for forcing the subject-matter into one or the other mold. Neither is large enough alone. Psychologists study both consciousness and behavior that does not involve consciousness. Functionalism seems untenable unless one assumes that mind affects the body. It played its great rôle by stressing biological factors until behaviorism could appear upon the scene. If, on

the other hand, one must weigh the respective merits of structuralism and behaviorism, the latter I think has the advantage. Our problem, however, is not so much to state everything in objective (behavioristic) terms as it is to supplement the introspective account with data upon environmental adjustments irrespective of the conscious qualitative content. It is well and important to know that such and such an act of reasoning, of delusion, etc., *can* go on in terms of auditory images or of kinaesthetic sensations; but it is of far more value to analyze the process of success or failure.

It is a pleasure to acknowledge the influence upon this book of the teaching of Professors James R. Angell, Harvey Carr, and John B. Watson, and of the writing of Professors James and Titchener. My wife, Alda Barber Hunter, has given most valuable aid in the actual preparation of the manuscript.

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WALTER S. HUNTER

LAWRENCE, KANSAS
May 1, 1919

TABLE OF CONTENTS

INTRODUCTION

The Subject-Matter of Psychology. The Nature of Behavior. The Nature of Consciousness. The Methods of Psychology. The Fields of Psychology. *References.*

PART I. FIELDS OF PSYCHOLOGY

CHAPTER PAGE

I. Animal Psychology 13

Introduction. The Chief Problems. Methods of Experimentation. Tropisms. Instincts. Sensory Processes. Studies on Habit-Formation. Imitation. The Delayed Reaction. Conclusion. *References.*

II. Individual and Applied Psychology 36

I. Individual Psychology:

Introduction. The Binet-Simon Scale. Criticisms of the Binet-Simon Scale. Performance Tests. The Calculation of Mental Age. Group-Examination Methods. The Feeble-minded. The Inheritance of General Intelligence. The Use of Statistical Methods.

II. Applied Psychology:

Psychology in Its Relation to Medicine and Law. The Relation of Psychology to Education. Psychology and Business. Conclusion. *References.*

III. Abnormal Psychology 61

Problems. Defense Mechanisms. Types of Mental Disease. Causes of Nervous and Mental Disease. Paresis. Paranoia. Multiple Personality. Hysteria. Freud's Conception of the Neuroses. The Psychoanalytic Method. *References.*

CHAPTER PAGE

IV. Social and Racial Psychology 84

I. Social Psychology:

General Problems and Points of View. The Nature of Society. The Origin of Society.

A. The Self as Social: The Place of Instincts in Social Life. Socializing Influences in the Individual—1. Sympathy.—2. Imitation.—3. Suggestion. The Nature of the Self. The Development of the Self. Baldwin on the Growth of the Self.

B. Social Institutions: Introduction. The Nature of Custom. The Mob.

II. Racial Psychology:

Racial Differences in General Ability. Résumé of Part I. *References*.

PART II. NORMAL HUMAN ADULT PSYCHOLOGY

CHAPTER PAGE

I. Attention 113

Attention and Selection. Selective Agencies. Anatomical Conditions. Objective Conditions. Subjective Conditions. Accurate Attention. Further Specific Problems in Attention. The Scope of Attention. The Duration and Fluctuation of Attention. Classes of Attention. Motor Accompaniments. *References*.

II. The Nervous System 132

The Reasons for Study. The Neurone. The Reflex Arc. The Development of the Nervous System. Divisions of the Adult Nervous System. The Structure and Function of the Spinal Cord. The Medulla. The Cerebellum. The Mid-Brain. The Thalamus. The Cerebral Cortex. The Cranial Nerves. Important Groups of Conduction Paths. *References*.

CHAPTER PAGE

III. REFLEX ACTION AND INSTINCT 158

Introduction. Definition of Reflexes. Types of Reflexes. Typical Phenomena in Reflex Action. Resulting View of Behavior. Definition of Instincts. Some Experimental Studies of Instinct:—1. The Pecking of Chicks.—2. The Instinct for Vocalization in Birds. The Permanent Character of Instincts. The Modification of Instincts. The Origin of Instinct. Historical Theories of the Origin of Instinct. The Classification of Instincts. Instinct and Intelligence. Habit. *References.*

IV. THE EMOTIONS 179

Introduction. The James-Lange Theory of Emotion. Criticism of the James-Lange Theory. Sherrington's Experiment with Dogs. Cannon on Bodily Disturbances in Pain, Fear, and Rage. The Neural Basis of Emotion. Present Status of the James-Lange Theory. Principles Underlying Emotional Disturbances. Classification of Emotions. Simple and Complex Emotions. Aesthetic Emotions and Empathy. Mood and Temperament. Sentiment. The Function of Emotions. *References.*

V. THE AFFECTIVE PROCESSES 200

Introduction. Attributes of Affective Processes. Affection and Sensation. Stimuli for Affective Processes. Stimuli from Art. Bodily Changes in Affection. Affective Memory. Functions of Affection. *References.*

VI. SENSORY PROCESSES 215

Introduction. Definition of Sensory Processes. Sensation, Perception, and Apperception. The Development of Sensory Processes with Experience. The Nature of Meaning. The Classification of Sensations—1. Proprioceptors. 2. Intero-ceptors. 3. Extero-ceptors. Sensory Qualities. Taste. Smell. Cutaneous Sensitivity. Kinaesthetic and Organic Sensations. *References.*

CHAPTER PAGE

VII. SENSORY PROCESSES (*Continued*) 240

Auditory Sensations. Stimuli and Receptors. Theories of Hearing. Certain Problems in Audition. Visual Sensations—Visual Receptors. Visual Qualities. Color-Mixture and Complementary Colors. Simultaneous Contrast and After-Images. Peripheral Vision. Color-Blindness. Twilight Vision. Theories of Visual Qualities. Specific Nervous Energy. Sensation Intensities, Weber's Law. The Awareness of Space. Tactual Space. Auditory Space. Visual Space. Functions of Sensory Processes. *References.*

VIII. IMAGINATION AND THE SEQUENCE OF EXPERIENCES . . 277

I. Imagination:

The Image and Sensation. The Neural Basis of Imagery. Image-Types. Productive and Reproductive Images. The Function of Images.

II. The Sequence of Experiences:

The Sequence of Images and Sensations. The Laws of Association. The Neural Basis of Association. Secondary Laws of Association. Total and Focalized Recall. Simultaneous Association. *References.*

IX. MEMORY 294

Definition. Memory and Imagination. Recognition. Experimental Studies of Recognition. The Problems of Retention. Conditions Favorable to Learning. Learning Significant versus Nonsense Material. Remote Associations. Habit-Interference. Transfer of Training. Effects of Practice and Intention. The Whole versus the Part Method. Distribution of Effort. The Training and Economy of Memory. Nature of Forgetting. Rate of Forgetting. "The Fixation of Arcs in Habit." Curves of Learning. The Function of Acquired Modifications of Behavior. *References.*

CHAPTER PAGE

X. THINKING 320

Introduction. The Nature of the Concept. The Formation of Concepts. Values and Limitations of Concepts. The Nature of Judgment. Experimental Studies of Judgment. The Absolute Impression. The Rôle of the Image in Judgment and Thinking. The Conscious Attitude. The *Aufgabe*. Analysis of a Concrete Act of Thought. The Rôle of the Syllogism in Thought. Deduction and Induction. *References*.

AUTHOR INDEX 345

SUBJECT INDEX 348

INTRODUCTION

INTRODUCTION

The Subject-Matter of Psychology.—At present attempts to delimit psychology from the other sciences are rarely made with particular seriousness. It is enough to get clearly in mind the general goal to be attained. No growing field of study can be held within the limits of a definition, for it will go wherever its devotees take it! Psychology has always taken as its general goal the understanding of human nature and human behavior. Until the middle of the nineteenth century chief emphasis was placed upon the intellect, and psychology was considered a part of philosophy particularly as related to the problems of the theory of knowledge. As such it was the study of mind, consciousness, or the soul, and the limits of these marked the uttermost boundaries of the science. In 1830 and the years following, however, genuine scientific movements in psychology had their beginnings in Germany, France, and England. In Germany the work was begun by physiologists and physicists, Ernst Weber, Theodor Fechner, Hermann Helmholtz, Ewald Hering, and Wilhelm Wundt. In France the emphasis was upon the study of abnormal mental phenomena. The typical students were J. M. Charcot, Pierre Janet, and Alfred Binet. In England we find yet another type of work in the biological studies of the behavior of man and other animals carried on by Charles Darwin, Herbert Spencer, G. J. Romanes, and others. From these early beginnings first one phase of human experience and then another has come under experimental scrutiny until in the past decade the chief contributions have concerned the nature of thinking and the measurement of "general intelligence" in the various grades of men. With the development of the science has come an increasingly important bearing upon

the practical problems of society, many phases of which will become apparent as our present account proceeds.

It is possible to divide the subject-matter of psychology into two significant classes: the facts of consciousness and the facts of behavior. These two groups of phenomena are most closely related, as we shall see, and yet they are so distinct that separate theoretical systems of psychology have been founded upon them, each denying the possibility of the other. The present account should make clear that the science of psychology, as it is actually developing in the laboratories, involves both classes of data.

The Nature of Behavior.—Our introductory account of behavior may well be brief. By *behavior* is meant *the muscular and glandular activity of an organism*, such, for example, as is seen in fear, in the formation of habits of movements, in speaking, etc. Psychologists study behavior of this type and also such behavior as the variations in breathing and circulation which accompany conscious states of the type of pleasantness, unpleasantness, and attention. Mention should also be made of the important behavior studied in relation to emotions (e.g., the activity of glands of internal secretion) and in relation to hunger (the contractions of the stomach), and of the nature of the nervous processes which control all of them. In the study of these topics psychology comes in the closest possible relation to physiology, zoölogy, and neurology, just as it is closely related to physics in the study of light and sound. However, not all forms of behavior are studied by psychologists. There are some which have only an indirect and very distant relation to the consciousness of the individual, such, for example, as the secretion of pancreatic juice and the mechanics of respiration, and which have also but little effect upon the overt behavior of the organism as a whole. These topics may therefore be termed *purely physiological*, and will remain so until evidence is advanced indicating a relatively intimate connection with

consciousness and the organic behavior of the individual, the *overt behavior* of the organism as a whole.

The Nature of Consciousness.—By a state of *consciousness* we shall understand *anything of which I am immediately aware*—a book, a table, a color, a pain, my hate, a joy, a memory, or a thought. On the other hand, no object of which I am at present unaware is a state of consciousness. Into this class fall things I have never known immediately and also those objects that I have known but of which I am not now aware, such as forgotten pictures and emotions. Every state of consciousness must exist in the present; what is past or future is non-existent. A forgotten idea does not exist stored up in the mind: it is the modifications in the nervous system that remain.

Things as we experience them depend upon the activities of the sense-organs and of the nervous system and not solely upon the physical object. Thus a room may be hot to one person and cold to another, depending upon whether or not the individual has just come from a warmer or a cooler room. Again a person walking toward us is actually affecting the eye as though he were steadily growing larger, and yet what we are aware of is a decrease in distance. These are facts of consciousness, as is also the sort of mental imagery one uses in thinking of a familiar house, whether one has a mental picture or an auditory image of its name.

Consciousness accompanies certain forms of activities in the nervous system. It is, however, not a nervous process, nor is it located in the brain. What science finds in the brain are certain physical and chemical processes, all of which are as different from a state of consciousness such as joy as two existing facts can be. The further description of consciousness must await the development of the body of the present text.

The Methods of Psychology.—The primary methods of psychology are not different from those of other sciences which

require the analytical, experimental observation of facts and events that are vivid and precise at one time though very fleeting and elusive at another. The observation and description of states of consciousness are difficult and require thorough training before expertness can be attained—a condition, however, that is true of the task required of observers in all sciences and in many branches of non-scientific life. An umpire, e.g., in a baseball game must be able to see instantly where the ball has gone and whether or not it gets to first base prior to the runner. So the psychologist must say which of two events precedes and what each one is. If they are sensations—things seen, touched, smelled, etc.—the task may be relatively easy. If they are ideas the difficulty may be very great. Many states of consciousness, such as memories, images, feelings of pleasantness and unpleasantness, are not only vague and confused, but are also fluctuating in character. We can attend to them for a moment, and then they are gone. The difficulty of accurate observation and report is certainly real, but it is not different in kind from that which meets the histologist and zoölogist. When they put structures living or dead under the microscope and attempt to describe what is seen, the lines of demarcation are often faint or the activities of the organism brief, with the result that contradictory evidence is presented by different observers. The solution of the problem then comes only with increased training in observation and with many repeated descriptions, a condition similar to that presented to the psychologist.

The experimental work in psychology consists in so controlling the factors modifying consciousness and behavior—for example, vision and habit-formation—that accurate statements can be made concerning the causes of various features of these two classes of material. This may mean in the former case the control of the amount, size, and duration of illumination and in the latter case the regulation of the complexity of the

habit and of the number of trials per day. These observations must be systematic, controlled, and subject to repetition if they are to meet the requirements of science.

The particular experimental methods that are used in psychology will vary with the particular problems to be studied, as is the case in physics, chemistry, and zoölogy. In our present science there are, for example, the methods of mental tests, of psychoanalysis, of psychophysics, of animal behavior, etc. These methods will vary as much for the different problems within one science as they do from one science to another. It should be insisted that there is no one method peculiar to psychology. It is often urged that *introspection* is such a method. Introspection, when so used, signifies a "looking within" and a "noting of the nature of one's conscious states," as opposed to a "looking outward" and a "noting of external things," which is termed observation. The assumption is here that consciousness is in some manner "within." We have said, however, that consciousness is not in the brain, and observation fails to verify the "inward" as opposed to the "outward" existence of such states of consciousness as colors, sounds, etc. Conscious states may be localized outside the body, as is here the case, or they may be within the body, as is true in hunger and anger. As a result of this possible twofold location of consciousness, the exact use of the term introspection only produces confusion. When met in the present text, therefore, the term will be synonymous with observation, for one need not have two scientific methods merely because the material that one studies may be located in either of two places.

The Fields of Psychology.—Although present-day psychology is concerned with the general problems of consciousness and behavior, there are a sufficient number of different conditions under which the problem must be studied to justify the division of the science into separate fields. These may be enumerated as follows: normal human adult psychology, animal psychology,

social and racial psychology, individual and applied psychology, and abnormal psychology. In addition to these, child psychology, genetic psychology, and physiological psychology are often mentioned. These, however, in our opinion do not deserve to rank as separate fields or divisions of the science. Practically all that is known about child psychology is the result of mental tests. The remainder of the work which has been done (observations, usually uncontrolled, on instinctive development) may well be included with the tests in individual psychology. Genetic psychology is not so much a field as a point of view from which data are arranged according to a scale of complexity or of probable development—that is, we arrange the facts of animal, child, and adult human behavior in a series to indicate their probable order of appearance. Finally, all psychology seeks to correlate consciousness and physiological processes and is therefore physiological psychology in intent. The more all of these parts of general psychology develop the more thoroughly interrelated they become with our ultimate purpose, that is, the giving of a complete account of human nature. On the basis of this developing body of scientific data, a psychotechnique (Münsterberg's term) is growing up which, in addition to contributing purely scientific material, is aiding materially in the solution of many social problems. We shall include certain so-called practical material in the chapters that are to follow.

A more detailed view of the present status of the various fields of psychology, with their special methods of investigation, will be given in Part I, "Fields of Psychology." The discussion of normal human adult psychology, however, will be reserved for Part II, in that this field is usually treated as the major part of psychology. Historically it is the parent stock. At the present time, however, when judged by the central problem of the science as a whole, it has several rivals among the other fields both with respect to exuberancy of spirits and to importance of contributions.