

PSYCHOLOGY

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PREFACE

THE present text aims to give a comprehensive view of the facts, principles, and theories of human psychology. Accordingly, the student will find that it represents the various points of view of modern psychology—the analytic and the descriptive, the structural and the functional, the genetic and the physiological. At the same time the empirical results of experimental psychology are used as far as possible. Thus at the beginning the student is given a broader foundation for the understanding of mental life than could be given by a more limited point of view.

From the very outset an attempt has been made to differentiate the metaphysical and the empirical tendencies in psychology. It is important that the student should know when he is indulging in naïve metaphysical speculation, and when he is dealing with the results of scientific observation or the theories based upon such observation.

While I am in sympathy with the present attempt now being made in some quarters to emphasize the objective and quantitative aspects of consciousness, nevertheless I confess the belief that the qualitative aspect is still worthy of psychological consideration, and that, in order to get at this qualitative aspect, the method of introspection is still a valid method of psychological procedure.

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CONTENTS

CHAPTER	PAGE
I. INTRODUCTORY Divisions of Psychology. The Procedure of Psychology. Consciousness. Subject-Object Nature of Consciousness. Soul. Mind. Self.	I
II. THE NERVOUS SYSTEM Consciousness and the Nervous System. The Gross Structure of the Brain. The Autonomic Nervous System. Nerve-Cells. Nature of the Nervous Impulse. Kinds of Neurones. White and Gray Matter. The Fibre Connections of the Brain. Localization of Function.	21
III. ATTENTION Forms of Attention. Neural Basis of Attention. Shifting of Attention. Range or Span of Attention. Effect of Attention. Motor Accompaniments of Attention. Feeling of Effort in Attention. Interest and Attention.	53
IV. SENSATION Sensation as an Element of Consciousness. Pure Sensations. Physiological Basis of Sensation. The Nature of the Nerve-Impulse. Evolution of Sense-Organs. The Stimuli. After-Effects of Stimulus. Sensory Adaptation. Attributes of Sensation. Quality. Intensity. Extensity. Duration. Other Attributes. Kinds of Sensations.	87
V. ORGANIC, KINÆSTHETIC, AND CUTANEOUS SENSATIONS Organic Sensations. Kinæsthetic Sensations: Muscle, Tendon, and Joint Sensations; Sensations from Vestibule and Semicircular Canals. Cutaneous Sensations: the End-Organs; the Brain Centres; Pressure-Sensations; Pain-Sensation; Sensations of Cold and Warmth.	110

CHAPTER	PAGE
VI. OLFACTORY AND GUSTATORY SENSATIONS . . .	130
Olfactory Sensations: End-Organ; the Stimulus; Classification. Gustatory Sensations: End-Organ; Gustatory Nerves and Brain Centres; Stimulus; Classification of Gustatory Sensations; Retardation; Mixtures, Contrasts, Adaptation; Threshold; Complexes.	
VII. AUDITORY SENSATIONS	144
End-Organ. Brain Centres. The Stimulus. Noises. Tones. Compound Tones. Timbre. Beats. Combination Tones. Intensity. Musical Tones, Consonance, and Dissonance.	
VIII. VISUAL SENSATIONS	166
The Retina. The Optic Nerve and Optic Centres. Stimulus. Kinds of Visual Sensations. Brightness of Colors. Purkinje Phenomenon. Saturation. Complementary Colors. The Color Pyramid. Color Mixtures. Light and Color Adaptation. Successive Contrasts. Simultaneous Contrasts. Color Zones of the Retina. Color-Blindness. Color Theories. The Young-Helmholtz Theory. Hering Theory. Ladd-Franklin Theory.	
IX. PERCEPTION	197
Perception of Objects. Complication. Recognition. Meaning. Illusions. Hallucinations. Perception of Space: Development of Space Perception; Third Dimension; Space Errors and Illusions; Localization and Projection of Auditory Sensations. Perception of Time: Elements of Time Perception; the Psychical Present; Sensory Material of Time Perceptions; the Psychical Present and the Logical Present; the Past and the Future; the Measure of Time.	
X. MEMORY	238
The Image. Definition of Memory. Organic Memory. Individual Differences in Memory. The Training of the Memory. Methods of Memorizing. Forgetting. Defects of Memory. Function of Memory.	
XI. IMAGINATION	260
Memory and Imagination. Kinds of Imagination. Reproductive Imagination. Productive Imagination. Types of Imagination. Visual Type. Auditory Type. Motor Type.	

Mixed Types. Methods of Determining the Types of Imagination. Imagery in Synesthesia. Concrete and Symbolic Imagination. Image and Idea. Training of Imagination. Imagination as a Means of Supplementing the Present. Imagination and Behavior.

XII. ASSOCIATION 277

Formation of Associations. Motor Connections. Mental Connections. Associative Recall. The Laws of Association. Contiguity. Similarity. Partial and Total Recall. Falsification of Association. Association Tests. Physiological Basis of Association.

XIII. CONCEPTION 299

Thinking. The Concept. The Formation of the Concept. The Psychological and the Scientific Concepts. The General and the Individual Concept. The Analysis of the Concept. The Image. Consciousness of Meaning. The Intension and Extension of Concepts. The Genesis and Development of the Concept. Language. Origin of Language. Thought and Language.

XIV. JUDGMENT 321

Judgment and Perception. The Nature of Judgment. Judgment as Apperception. Judgment as Belief. Judgment as the Ascription of Meaning. Judgment as Comparison. Judgment as Evaluation. Kinds of Judgments. Analysis and Synthesis. Judgment and Concept. Judgment as the Fundamental Cognitive Activity.

XV. REASONING 338

Inference. Inference and Perception. Inference and Judgment. Inference and Concept. The Nature of Reflective Thought, or Reasoning. The Steps in Thinking. Kinds of Reasoning. Reasoning and the Syllogism. Imageless Thought. The Neural Basis of Reason.

XVI. AFFECTION AND FEELING 356

Affection. The Nature of Affection. Kinds of Affection. Attributes of Affection. Adaptation. Affection and Sensation. Pain and Affection. Affection and Perception. Affection and the Ideational Processes. Affection and Bodily Expressions. Neural Basis of Affection. The Significance

and Function of Affection. Feeling. Classification of Feelings. Mood. Temperament. Emotions. Sentiments. Passion.

XVII. EMOTIONS 377

James-Lange Theory of Emotions. The Instinctive Reactions and Emotions. Conditions Which Give Rise to Emotions. Significance of Emotions. Classification of the Emotions. Emotions and Memory.

XVIII. CONSCIOUSNESS AND BEHAVIOR 397

Volitional Action. Genesis of Motor Activity. The Connection between Conscious States and Action. The Law of Dynamogenesis. Control. Effect of Motor Activity upon Consciousness.

XIX. WILL 419

Conation. Will. Will as Self-Determination. Will and Knowledge. Will and Character. Freedom of the Will.

XX. THE SELF 432

The Unity, Continuity, and Identity of Personal Consciousness. The Subject Self, or Ego. The Empirical Self. Origin and Growth of the Self. Contents of the Self. Consciousness of the Self. Self and Sensation. Self and Perception. Self and Attention. Self and Interest. Self and Feeling. Self and Will. Sleep and the Self. Dreams and the Self. Disturbances of the Self. Mental or Psychic Blindness. Automatic Writing. Somnambulism. Hypnosis. Double Personality. Insanity.

BIBLIOGRAPHY 463

INDEX 471

PSYCHOLOGY

CHAPTER I

INTRODUCTORY

Psychology is that study whose task it is to point out and organize the observable facts of conscious life, and to formulate the theories, or hypotheses, necessary to explain these facts. In this study it is important that the student should distinguish clearly between fact and hypothesis—between what is obtained through scientific observation and what is logically constructed through speculation. Psychology was in its earliest stages a branch of philosophy, and was more inclined to speculate about the nature of consciousness than to observe and systematize the facts connected with it. This is illustrated in the attempts to explain consciousness in terms of the soul, a metaphysical being beyond actual observation. Modern psychology concerns itself more with the facts and less with the ultimate nature of consciousness.

If we consider all the facts which come from actual observation we may put them into three groups:

1. Facts about matter.
2. Facts about life.
3. Facts about consciousness.

The first group forms the subject-matter of the material sciences; the second group forms the subject-matter of the biological sciences; and the third group forms the subject-matter of psychology.

Divisions of Psychology.—There are a number of special forms of psychology determined by the fields of mental life

from which the psychologist draws his material, and by the methods and points of view he employs in his study. With respect to the fields of consciousness we have:

1. Adult human psychology.
2. Child psychology.
3. Social psychology.
4. Abnormal psychology.
5. Animal psychology.

With respect to methods and special points of view we have:

1. Descriptive psychology.
2. Experimental psychology.
3. Genetic psychology.
4. Functional psychology.
5. Physiological psychology.
6. Psychophysics.
7. Comparative psychology.

Adult Human Psychology considers the consciousness found in the adult human being. It points out the common qualities, processes, and modes of activity found in human beings generally. Since individuals differ from each other in mental characteristics, a study of these differences is also important. This study has been termed individual psychology.

Child Psychology deals with the conscious states of the child. It takes account of the stages of mental development through which the child passes. Since the genesis of consciousness is important here, child psychology is a part of genetic psychology; and since a large part of the child's life is spent in school under a formal educational system, child psychology and genetic psychology often take the form of educational psychology.

Social Psychology has to do with conscious experiences which are made possible by the presence of an individual mind in a group of other minds. Such experiences are due to what has been termed social consciousness. Out of it spring language, laws and customs, myths and religion—all of which

are dependent upon the existence of a community of individuals. The use of the terms "social consciousness" and "collective mind" must not be understood to indicate the assumption of the existence of another kind of consciousness other than that found in individuals. These terms refer only to the conscious states in individuals which are due to a community of minds. Communities of people have the same language, customs and fashions, religion and mythology. The conscious experiences back of these institutions we assume to be the same in all individuals. Since much of our mental life is social, social psychology overlaps normal adult psychology and draws its material from it. A subdivision of social psychology, variously named as *race psychology*, *ethnic psychology*, or *folk psychology*, is interested in the mental characteristics of different races or peoples. It may include the comparison of the mental traits found in different peoples. We may compare the Japanese, on the one hand, with the Russians on the other; or the primitive races, like the American Indians or Malays, with the more civilized races. A still further subdivision might take up the study of classes, professions, and occupations.

Abnormal Psychology deals with abnormal mental states, such as hypnotism, double or multiple personality, fixed ideas, hysterias, mania, melancholia, dementia, paranoia, idiocy. Here also should be included the study of deficient and exceptional minds—the weak-minded and the genius. The criminal mind belongs in this list, because most criminals are abnormal.

Animal Psychology takes as its subject-matter the mental states of animals. The absence of language in animals limits the possibilities of studying the consciousness which we know exists there. Man can describe his experience in language, but animals cannot. However, the behavior of the animal is a clew to the kinds of consciousness it has. We may therefore study its behavior and so, indirectly, its consciousness. Since we may proceed from the lowest animal forms

to the highest, animal psychology may be genetic in its point of view.

Descriptive Psychology is really a method of studying consciousness. It analyzes, describes, and classifies conscious experiences.

Experimental Psychology is laboratory psychology. Laboratory methods and physical apparatus are used as means of controlling and studying mental states. Of course, the psychologist cannot measure or weigh the conscious states of his subjects. He cannot even observe them directly. He may, however, measure the time during which a conscious state exists. He may measure or weigh the physical stimuli and correlate the results with the intensities of the conscious experiences. He may also note the physiological changes which take place in the body while the conscious states are going on. For all this he uses instruments of precision, but nowhere in his laboratory has he an instrument that will measure a mental state itself. A large part of this study depends upon the introspective report given by the subject.

Genetic Psychology considers the successive stages of mental growth and the evolution in the individual and in the race. We may use a pair of terms that are common to biology and psychology to designate the two lines of development—*phylogenesis*, or racial development, and *ontogenesis*, or individual development. These terms really refer to the growth and development of organisms as a whole—both mind and body. Mental development in phylogenesis includes all the stages of conscious life which appear in the evolution of animal forms from the lowest to the highest. These stages of development may be considered either as a series now existing, or as a series constituting the successive stages of evolution from the earliest time to the present. Mental development in ontogenesis includes the stages of development which take place in an individual from birth to death. The biologist finds a relation between ontogenesis and phylogenesis which he states as the principle of recapitulation. According

to this principle, the individual in embryo passes through the same stages of development that the race has passed through. Thus, biological recapitulation suggests a problem for genetic psychology: Does the child in his mental development pass through the stages of mental development that the race has passed through?¹ The chief problem of genetic psychology, however, is that of making out the stages of mental development of the individual.

Functional Psychology looks upon consciousness as a process. Formerly the mind was supposed to possess the functions of knowing and willing. Later a third function, that of feeling, was added. Knowing, feeling, and willing are, from the point of view of functional psychology, the functions of the mind. A more recent functional point of view asserts the presence in the mind of a purposive factor which determines the direction and nature of conscious processes. While external conditions (stimuli) do this to a certain extent, it is claimed that these factors are not sufficient to explain conscious activity adequately. A conscious agency, therefore, is assumed to account for the character of our conscious states.

Physiological Psychology considers consciousness as either the direct outcome or the correlate of brain activity. Physiological psychology does not, however, necessarily commit itself to a materialistic philosophy. For consciousness may be non-material or spiritual in its nature and yet be dependent upon the brain for an opportunity to manifest itself. The brain may be only the medium or agent for consciousness and not its real cause. But whether its philosophy is materialistic or spiritual, it bases its particular point of view and its method upon the observable fact of correlations between consciousness and nervous processes in the brain. It accordingly takes the activity of the nervous tissue as its starting-point, acquaints itself with the facts of the anatomy, histology, and physiology of the nervous system, and at-

¹For a discussion of this question the student is referred to "*Mental Development in the Child and the Race*," by James Mark Baldwin.

tempts to find out what happens in the brain when we are conscious, or, more exactly, to find out what the correlations are between the nervous activities on the one hand and mental states or activities on the other. It really combines a large part of neurology (that which has to do with the higher brain centres and their connections) with psychology proper. One of its important problems is the localization of brain centres for the different conscious processes. For example, it finds the centre for sight in the occipital lobes of the brain, the centre for hearing in the superior convolution of the temporal lobes, and so on. In the present state of knowledge of the physiology of the nervous tissue there is relatively little known concerning the nervous action in the brain. At the present time, then, physiological psychology can be little more than the statement of a series of neurological facts on the one hand, and of conscious facts on the other.

Psychophysics is the study of the relations which exist between consciousness and the world of physical objects which are capable of acting as sense-stimuli. It is a partnership between physics and psychology, and is included under experimental psychology as now carried on in the psychological laboratory.

Comparative Psychology has taken at least two directions. In some quarters it has been identical with animal psychology and has occupied itself with the comparison of the mental life found in the various types of animals. This might well include a comparison of the mental life of the animal forms with that of man, but this is a problem for the future. A wider significance has been given in other quarters to comparative psychology in that it is considered as a comparison of the normal human adult consciousness with that found in the child, in abnormal man, in social groups, and in animals respectively.

The Procedure of Psychology.—Although the array of psychologies seems rather long and perplexing, the matter becomes really very simple when we remember that they are

all studies of consciousness, and that consciousness is found only in human beings and animals. Nearly all these forms of psychology are simply special methods, or points of view, used in the study of animal and human consciousness. A general psychology, such as we are entering upon, takes for its subject-matter the highest type of consciousness—that of the adult human being. But it may make use of any of the different special methods and points of view, or even of the subject-matter of the different psychologies, in so far as it is helpful in understanding the mental life of normal man.

The fundamental method of psychology is *observation*: first, the observation of the mental states and processes taking place in our own minds, and second, the observation of the behavior of others by means of which we may infer the presence and nature of their mental states. These two forms of observation are necessary in psychology. Without the first we could never have an intimate first-hand acquaintance with the facts of consciousness, and without the second we would know nothing of consciousness outside our own minds.

The first form of observation gives us direct knowledge of our own conscious life and has been termed—*introspection*, *i. e.*, looking within. Introspection is the observation of our own mental states. This self-observation does not, however, presuppose a new process or method of observation introduced by the psychologist. Introspection does not differ fundamentally from the observation employed in the other sciences. The difference lies only in the material upon which it works. Introspection in psychology is observation of mental facts, while observation in the other sciences is observation of material facts. Introspection has sometimes been taken to be an inner consciousness in distinction to an outer consciousness which knows the outer world of objects. But there is no valid ground for such a distinction. All consciousness, whether it be awareness of mental states or of material objects, is of the same character. The distinction of inner and outer has no meaning when applied to consciousness it-

self. The awareness of a material object is just as much inner consciousness as the awareness of a mental state. Both are contents of consciousness. The ability to introspect improves with training and practice. The novice in psychology is quite as helpless as the beginning student in biology when given his first high-power microscope. Expertness is needed no less for the accurate observation of mental states than for the accurate observation of material specimens in biology, physics, or chemistry.

Objections have been urged against introspection as a scientific method on the ground that its results cannot be verified. The claim has been made that the results of introspection cannot be confirmed because no one can observe directly the conscious states of another. On the other hand, the objects of material sciences are said to be common property. Any one may observe them and confirm the reports of others. This distinction of the *private nature* of consciousness and the *public nature* of objects is not as far-reaching as it seems at first sight. All the sciences are built up by means of observation. But every observation is the observation of some *one* person. The observation itself is always a private and personal affair. Different observations can be brought together and made to agree only when reduced to a common unit of measurement. By means of this unit of measurement uniformity may be established, and this is the most important thing in all observation. In the material sciences the uniformities are found in terms of units of quantity—the millimetre, the gram, et cetera. In psychology the uniformities are in the terms of quality—quality of experience. The units of quality are descriptive units, or language symbols. The facts of consciousness discovered by means of introspection may be reduced to the common terms of descriptive language. If when measured by these common terms the experiences of different observers show uniformity, that is sufficient verification.

Restating this point, we may say that the so-called mate-

rial objects of the sciences always fall within some one's private experience. The material object which I observe is my object, and the material object which you observe is your object. You can never experience my object and I can never experience your object. They become common to both of us only when they are described in the same terms, *i. e.*, reduced to the same symbols. Likewise, my consciousness and your consciousness become common property when described and communicated through the medium of language. The reliability of these descriptions depends, of course, upon the degree of accuracy with which the symbols of language are used. There is, to be sure, greater opportunity for variation and error in the language description of psychical facts than in the quantitative units of measurement of the material sciences. But even in the material sciences there is variation and error. No two observers report exactly the same results from the observation of material objects. The method of introspection in psychology and the method of observation employed in the material sciences are alike in their fundamental procedure. They both reduce the results of individual and personal observation to the common terms of measurement or description, and by means of the uniformities discovered verify the facts. When a number of investigators co-operate and compare the results of their introspection, and repeat them again and again, a mass of cumulative evidence is obtained that is entirely trustworthy.

Another objection to introspection has been offered on the ground that the observation of mental states cannot take place without changing their nature. This objection is based upon the assumption that the consciousness of mental states is not the same as the consciousness of material objects. This assumption, as we have seen, is not well founded. We have spoken of this before, but let us remind ourselves again that the observation of mental states is not a different kind of observation from that by which we know the material world. The physicist interprets his experience in one way

and the psychologist in another, *but the interpretation is a construction which is put upon the experience after it is over.* In the one case we are interested in the experience as an object belonging to an independent material world. In the other case we are interested in the experience as a part of *our* consciousness. At the moment of observation both the object and the mental state are given in our awareness.

The second form of observation in the procedure of psychology supplements introspection. It is the observation of behavior. From these external manifestations we may not only infer the presence of consciousness, but its nature. When a man smiles we judge that he is pleased. When a young child cries we know that it is experiencing pain. We can establish the fact that there is a large number of correspondences between the two series of events. Bodily movements and attitudes are the outward signs of conscious states. The quiver of the eyelid, the tremor of the muscles about the mouth, the faint blush upon the cheek, the peculiar quality and intonation of the voice, all betray to the practised observer the nature of the conscious states back of them. In young children and animals observation of behavior is the only means we have of gaining knowledge of their mental states.

Consciousness.—What consciousness ultimately is we do not know any more than we know what life ultimately is. Many theories have been formed about its *real* or intrinsic nature, but so far these theories have been of little value to the science of psychology.¹

When the psychologist asserts his inability to define consciousness ultimately he does not intend to imply that psy-

¹ Such inquiry really belongs within the province of metaphysics and not in psychology. We may, however, note two opposing theories concerning the ultimate nature of consciousness that have been generally held:

1. The spiritualistic hypothesis.
2. The materialistic hypothesis.

The spiritualistic hypothesis holds consciousness to be states of an unextended permanent being of immaterial or spiritual nature. The materialistic