

OUTLINE OF PSYCHOLOGY

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PREFACE

The time has gone by when any one man could hope to write an adequate text-book of psychology. The science has now so many branches, so many methods, so many fields of application, and such an immense mass of data of observation is now on record, that no one man can hope to have the necessary familiarity with the whole. But, even when a galaxy of learning and talent shall have written the text-book of the future, there will still be need for the book which will introduce the student to his science, which will aim at giving him at the outset of his studies a profitable line of approach, a fruitful way of thinking of psychological problems, and a terminology as little misleading as possible. The present volume is designed to render these services.

The need of such a book is greater in psychology than in any other science. In the physical sciences the student needs only to refine upon the methods of observation and reasoning which he has learned to apply in dealing with the physical world about him, regarding all events as links in a mechanical chain of cause and effect. Most students have begun, by the time they approach psychology, to regard this as the true and only way of science. And many of the books on psychology encourage them in this belief. Having begun in this way myself, and having slowly and painfully extricated myself and found what seems to me a much more profitable attitude toward psychological problems, I hold that the path of the student may be made smoother by setting clearly before him at the outset the alternative routes; so that, whichever he may choose to follow, he may at least make his choice with his eyes open, and may constantly be aware of the alternatives. The two principal alternative routes are (1) that of mechanistic science, which interprets all its processes as mechanical sequences of cause and effect, and (2) that of the sciences of mind, for which purposive striving is a fundamental category, which regard the process of purposive striving as radically different from mechanical sequence. The aim of this

book is, then, to introduce the student to psychology by this second route; and throughout I have kept in the foreground the question of the relative merits of the two routes; for this is the most important issue before psychologists at the present time, the one which divides them most fundamentally.

The mechanical psychology, naturally and almost inevitably, adopts the atomistic or "mosaic" theory of mental process, the theory that what in these pages is called thinking is a "stream of consciousness" consisting of discrete elements, units, particles, or atoms of conscious stuff, commonly called "sensations" or "units of feeling," cohering somehow in clusters. When it seeks to explain the clusterings and sequences of these "elements," it does so by imagining each one to be attached in some manner to an elementary process in the brain; and it seeks to explain the conjunctions and sequences of the elementary brain-processes in a purely mechanical fashion, by aid of the laws of the physical and chemical sciences.

This mechanical psychology is decidedly preponderant at the present time; and my book therefore is largely a polemic against all psychology of this type and on behalf of purposive psychology. For I am sure that nothing is to be gained by disguising or slurring over this issue, and that it must be frankly faced and resolved before psychology can go forward with the harmony and general agreement upon fundamentals which prevail in the physical sciences.

The fact and the importance of the issue were most interestingly illustrated by the work of the two eminent men to whom I have the honor to be in some sense the successor in Harvard College. Hugo Münsterberg began as a forceful, brilliant, and dogmatic exponent of the mechanical mosaic psychology. But more and more, as he became increasingly interested in the practical applications of psychology, he recognized the claims of the purposive psychology. And, in his later works, he may almost be said to appear as a self-made convert to this way of thinking.

In William James a similar evolution is traceable; less clearly, because all of his strictly psychological work was published at one period of his development, when he was still trying to balance himself upon and to reconcile the two incompatible founda-

tions. His great work, "The Principles of Psychology," shows this divided allegiance in almost every chapter. Where I have criticised the mechanistic mosaic psychology, I have usually chosen James's exposition of it, because it is incisive and brilliant. This may give the impression that I disagree with James more widely than is actually the case. For there were two Jameses—James the physiologist and sensationist psychologist, and James the author of the purposive psychology which was the root of his pragmatic philosophy. It is only the former James with whom I am in wide disagreement, and whom I have criticised.

In spite of this disagreement, I regard the "Principles" as perhaps the best book upon which serious students of psychology can begin to whet their appetite. To such students I am inclined to say: "Begin, as I did, by reading James's 'Principles' carefully and thoroughly, and then take up this book and see if it can help to clarify your thinking and to clear up some of the major tangles left by James."

As compared with James's great work, this book is simplified by consistent adhesion to a single point of view, that of the purposive psychology. But it makes no attempt to conceal the difficulties and complexities of psychological study. In the past, both descriptions and explanations of mental life have suffered much from the natural endeavor of psychologists to simplify their expositions. This tendency to simplification is, in fact, the root of the mechanistic mosaic psychology, that which describes mental process as made up of static elements, "units of feeling," "atoms of sensation," "particles of mind-dust," "neutral entities," or what not. And this type of psychology is still with us, and still predominant. Its latest exponent, Mr. Bertrand Russell, has performed the service of reducing it to the lowest level of banality (in his "Analysis of Mind"). Recently it has begotten upon physiology a most misshapen and beggarly dwarf, namely, "behaviorism," which just now is rampant in this country. But fortunately there are signs of a better future.

The work of Henry Head in England, and of Pierre Marie and of Bergson in France, has thrown doubt upon the interpretations

of mental disturbances following on brain-lesions in terms of the mosaic theory, interpretations which, not long ago, were very confidently advanced as justifying that theory. The psychoanalytic movement, however great its errors may prove to be, must always be memorable as a breaking loose from the tradition of mental life as a mechanical mosaic, and a demonstration that we must interpret it as a play of purposive forces rather than as an aggregation or mechanical streaming of mental atoms. In Germany, whence the mosaic psychology was imported into this country, there seem to be clear indications that its course is well-nigh run. Among the academic psychologists, those of the group represented by *Psychologische Forschung* have set their feet upon a better way. And, in a report upon the Congress held at Marburg in 1922, Doctor Henning writes: "Until the turn of the century it was believed that one could grasp the mind with number and measure. This was the direction of the Wundtian School; but few papers of this kind were presented to the Congress; for since 1900 there has developed a qualitative psychology which concerns itself less with numbers and more with kinds of experience and qualitative analysis. We know to-day that the complications and structure of experience cannot be analyzed into simple qualitative elements or built up by joining one such element to another." In America also this return to sanity is not without its pioneers. Professor R. M. Ogden, for example, in a recent article ("Are There Any Sensations?" *Am. Journ. of Psych.*, 1922) raises a "doubt as to the genuineness of the hypothetical elements of sensation," and proposes that we should no longer strive "to reconstruct mental life as a certain number of conscious entities merely joined one to another in a mosaic of sensory particles." And some leading psychologists, notably Doctor Morton Prince and Professor M. W. Calkins, have never wholly deserted the purposive route, even when they have compromised with the other by admitting "mental elements" as units of composition of "consciousness."

I venture to regard my book as an endeavor to carry to its logical conclusion that critical rejection of the "mosaic psychology" which has been a main theme of the psychological writings of Messrs. James Ward, F. H. Bradley, Dawes Hicks,

and G. F. Stout. My exposition is most nearly allied to and owes most to the works of the last named. Although I always feel humble in face of the clarity and penetrating quality of Professor Stout's writing, I venture to hope that in certain respects I may have attained greater consistency and a more complete emancipation from the evil influence of the "mosaic" tradition.

Any introduction to psychology written from the mechanistic and mosaic standpoint naturally begins with a description of the structure and functions of the nervous system, and goes on to discuss at some length the "sensations" of the various senses. I have touched on these topics very lightly only; because any attempt to treat of them adequately would have made the book unduly large, and because they seem to me of very secondary importance for the beginner.

Our knowledge of the functions of the nervous system is very rudimentary, and as regards many of those of greatest interest to psychology we are still entirely in the dark. The schematic oversimplified view which can be presented in one or two chapters seems to me of little value, and apt to be seriously misleading.

The psychophysiology of the senses is a field rich in accumulated observations, the fascination of which as a field of research is not unknown to me. But I cannot see that a brief and bald statement of the principal facts and theories is of primary importance to the young student of psychology. And the student who approaches psychology by this route is almost inevitably led into the mechanical atomistic way of thinking which I would have him avoid.

To begin with the study of the senses is seductive; for this is one way of simplifying psychology and of enabling the student to feel that he is acquiring a solid basis of facts. But it is a simplification achieved at the cost of an abstraction from actual experience, the degree of which the young student does not easily understand. I have preferred to lead the student up to the complexities of the human mind by way of the simpler processes of the animal mind. For there, although we are confined to the observation of behavior for evidence of mental life, we do at least deal with concrete realities rather than with abstract and artificial entities, such as "the sensations" are.

I have not attempted to make direct use of the large and rapidly increasing body of knowledge derived from the study of abnormalities of mental life. For this also is not of primary importance for the beginner; and it seems to me that little is to be gained by inserting snippets of psychopathology into an introductory book. I hope to publish shortly a volume on the abnormal processes, in which I shall endeavor to show how these may be satisfactorily conceived in terms of the general principles laid down in this volume. Although it is intended that the two volumes shall be independent, they will naturally supplement one another; and, for brevity's sake, I have on several pages referred to this projected volume as Part II.

I have printed in smaller type a number of passages in which I have discussed problems of peculiar difficulty or of secondary importance. The main part of the text in larger type may be read continuously; and the beginner may safely omit, on first reading, both the sections in smaller type and the foot-notes. In adopting this plan I have aimed to make the book useful both to junior and to more advanced students. I would also warn the beginner that the introductory chapter is a very difficult one. He should not be discouraged, if he should find that he cannot understand all of it at the first reading. He should return to it after reading the rest of the book.

Readers of my "Social Psychology" will notice that I have modified in certain respects my account of instinct. The present account is, I hope, not only fuller, but also clearer and nearer to the truth. The statement of the theory of laughter, included in Chapter V, has appeared in *Scribner's Magazine*, and I thank the publishers for permission to make use of it here.

I have to thank Professor Arthur Thomson and the publishers of "An Outline of Science," and Sir F. W. Mott and the publishers of his "Human Voice in Speech and Song," for permission to reproduce the two plates (Figs. 1 and 2), and to thank also Mr. L. H. Horton, who has read part of my manuscript and made valuable suggestions for its improvement.

W. McD.

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OUTLINE OF PSYCHOLOGY

CHAPTER I

INTRODUCTORY

Psychology is, or aspires to become, a science, a systematically organized and growing body of knowledge. Entering upon the study of this science, we shall naturally expect to be told what is the class of things or processes with which the science is concerned; what kind of knowledge, what sort of increase of understanding, we may hope to gain from the study of it.

The most satisfying answer is that it should help us to a better understanding of human nature. The aim of psychology is to render our knowledge of human nature more exact and more systematic, in order that we may control ourselves more wisely and influence our fellow-men more effectively. There is probably no psychologist who would find serious fault with this statement. As a definition of the province of the science it falls short in two respects. Such a definition should indicate all that falls within the province and should exclude everything that does not. And in both these respects the statement falls short of perfection. For one well-established branch of psychology studies animals, and is properly called the study of animal behavior. And, on the other hand, we have anthropology, a study which by its very title claims to be, and in practice is, the science of mankind; but which, as generally understood, includes much that falls outside the province of psychology. We should not attach great importance to these imperfections; for similar difficulties arise when we attempt to define concisely any science or branch of science. The fields of the various sciences overlap. It is inevitable that they should do so; for, if there are sharp divisions in nature, we do not know exactly where to find them, and therefore cannot draw any precise boundaries between the sciences. And such overlapping of the

sciences is really advantageous; for it brings the workers in the several sciences into touch and co-operation one with another.

The psychologist may and should study animal behavior; in doing so, he enters the field of the zoologist, needs his help and may hope to render some help in return. But he studies animals for the sake of the light which such study may throw upon his own problems, the problems of human nature. The relation of psychology to zoology is not unlike that of zoology to geology. The zoologist or biologist needs some knowledge of geology, and is able to make returns to the geologist for the help he gets from him; and there is a large field of overlap, the science of fossil remains or palæontology, which is dependent upon and supplementary to both these more fundamental sciences. In a very similar way, the science of animal behavior stands between zoology and psychology, as a field of overlap which is dependent upon both and in which they may come into helpful relations.

The other weakness of our definition of psychology, namely, that it may seem to claim too much and so encroach upon the field of anthropology, is no more serious. Anthropology, broadly conceived, concerns itself with man as an animal species. Within this wide science are several more special anthropological sciences, none of which can be sharply marked off from the more inclusive science or from one another; such are ethnology and human morphology and physiology. Psychology is a member of this group of anthropological sciences; it may be distinguished from the wider science of anthropology by saying that it is concerned, not with man as one animal species among others, but with man in his distinctively human aspect. Now every one knows that man is chiefly distinguished from the animals by his mental powers. Why not then be content (as some of the earlier writers were) to define psychology as the science of mind, or of the human mind, or of mind as manifested in the human species? There are several objections to such a definition. First, "mind" is a vague word, itself in need of definition. The meaning of the word can not be defined by pointing to one mind after another and saying: "This and this and this is what I mean by 'a mind.'" Although the words "mind" and "mental" are in common usage, we can only gradually by prolonged study

build up and clarify our conception of "mind" or of "a mind." Secondly, there are other sciences of mind than psychology: such are logic, and metaphysic, and epistemology, and theology, all of which claim to tell us about mind or minds.

Those who have been content to define psychology as the science of mind have for the most part conceived of human nature as a combination of two very unlike things or principles, mind and body. But this is an assumption the validity of which is highly disputable; it has been not only disputed, but also confidently rejected, by a great number of philosophers, as well as by many of the leaders of modern science. And, even if we regard the assumption as well founded, we have to confess that it is impossible to distinguish clearly and confidently between body and mind, between the working of the body and the manifestations of mind in or through the body.

Psychology is Based on Observations of Three Kinds.

Introspection

The difficulty is that each of us has no direct or immediate acquaintance with minds other than his own. Each one of us experiences pain and pleasure and various emotions, thinks and strives, remembers and expects and resolves. And it is generally agreed that all such experiences are manifestations of his mind or mental capacities. By reflection upon such experiences a man may form some notion of what his mind does and can do. And, by comparing notes with other men, he learns that they have similar experiences upon similar occasions, and infers that they have minds not unlike his own. Such observation of the varieties of one's own experience is called *introspection*. Every intelligent person can and does to some extent notice and remember his experiences; and there are very few who do not sometimes describe their experiences in words, reflect upon them and discuss them with their fellows. When such introspection, reflection, and interchange of descriptions of experiences and reflections upon them are conducted systematically, the process constitutes one of the great methods of psychology. It has for a long time been a well-recognized method; it has in fact often been declared to be the sole practical method

of psychological study, the only legitimate and effective method of obtaining knowledge of the mind. During the last half century, this method of study has been greatly refined by the use of systematic experiment; that is to say, the person who wishes to notice and describe his experiences of any particular kind, instead of waiting until in the natural course of events such an experience occurs, deliberately seeks or arranges conditions under which some such experience is likely to occur, expects it and notices it, and describes it as carefully as possible. By the aid of a laboratory, all sorts of ingenious apparatus, and skilled assistants, much may be done to refine introspection and to record its results more accurately; and such work is a large part, though by no means the whole, of what is called "experimental psychology." Experimental introspection has obvious limitations. Many of the most vital and interesting experiences, such as grief or joy or fear or moral struggle, cannot be induced at will, except, perhaps, in very slight degrees. And, under the most favorable conditions, introspection of our more vivid and vital experiences is difficult, because we are apt to be primarily interested in the events of the outer world in which we are taking part, if only as observers. Then again the very act of introspection does to some extent modify the experience we wish to observe and describe; so that in introspecting we partially defeat our own purpose.

Another great difficulty meets us when we come to exchange notes with others upon our introspections; namely, the language in which we describe our experiences to one another is always sadly inadequate and imperfect. It is not true, as has sometimes been said, that language was evolved purely for the description of material things and events; it seems more nearly true to say that language was in the first place essentially a means for communicating and describing our experiences, and that, throughout its development, this has been a very important function of language. Nevertheless, in respect of this function, language, in spite of all the efforts of literary men and of psychologists to render it more precise and effective, remains a very inadequate instrument. For the description and discussion of things and events of the material world language has

become very efficient; because we all have, or may have, the same kind of acquaintance with those things and events; and the efficiency of language for this purpose affords a strong guarantee of the essential similarity of such knowledge and acquaintance obtained by men in general.

But, in respect of the description of our experiences, language can never attain the same efficiency; just because each man has one kind of acquaintance with his own experience, namely, a direct acquaintance, and another, a very indirect kind of acquaintance only, with the experiences of other men.¹ Yet here again the fact that we do succeed by the aid of language in making one another understand in some degree our descriptions of our experiences shows that one man's experiences are not wholly unlike another's, but rather have much in common. In many cases of the description of experience, language is but little less efficient than for the description of objective fact. If I say "I saw the moon rise over the hill just now," you understand what I mean almost as fully and as surely as when I say "The moon rose over the hill just now." Yet in the former case my words describe a fact of my experience of which you can have only indirect acquaintance through my description; while in the second case the words describe an objective event which you may be acquainted with in the same way as myself and may objectively verify in other ways. Again, I say "I am truly sorry"; and (if I am speaking truly) I describe a fact with which you can have no direct acquaintance, such as I have; yet you know very well what I mean, and you adjust your conduct accordingly. And if, instead of "sorry," I had used any one of some hundreds of words, and had said "I am, or I feel, weary or angry, or anxious, or afraid, etc.," you might have felt the same confidence that you took my meaning. This confidence is justified by the success with which we use such language to influence one another.

¹ This statement is sometimes disputed. There is some striking evidence in support of the view that one man, A, may sometimes become aware of the thoughts or feelings of another, B, or otherwise be influenced by them, in some more direct fashion than the usual roundabout processes of bodily or verbal expression by B and the perception of those expressions by A by aid of his senses. Such communication by unknown means is generally called "telepathic"; but its reality is not regarded as fully established.