CONTEMPORARY SCHOOLS OF PSYCHOLOGY

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PREFACE

In the present age of progressive thinking—no doubt one of the recurring periods of "illumination" that the world has gone through, and perhaps the greatest of them—a large rôle is being played by the advance of science and by the increasing public acquaintance with science. The new light comes in part from the physical, biological, and medical sciences, but no small measure of it comes from the sciences that deal with human behavior; where the darkness has been densest, illumination finds most to reveal. Research on intelligence and motivation, on heredity and environment, are gradually clarifying what have always been matters of conflicting opinion. And besides this slow dawn of psychological knowledge, we are exposed to the blinding flashes of psychoanalysis, behaviorism, and other schools of psychology, some of them little known as yet to the interested public. The light emitted by these radical schools, though still far from steady and serene, does afford revealing glimpses of the unknown.

For anything like a definitive statement of the truth or falsity of the teachings of these several schools, the time is not yet ripe. If one demands only final conclusions, one must wait long decades for the answer. But if one desires to participate in the forward movement of the times and to keep pace with the progress of thought, one will find the schools of today well worthy of a hearing.

The present book seeks to provide an objective view of contemporary psychology so far as concerns the schools and their illuminating views of humanity. It does not aim to present the author's own views in any systematic form, though he has not shrunk from personal comments here and there. It does not aim at an exhaustive criticism of the various schools nor

at such an evaluation of them as would lead the reader toward one and away from another. Its aim is rather to present an impartial picture of the schools, so that the reader can see the essential features of each one free from confusing detail though with enough concreteness to lend color to the picture.

The book has grown out of a course of lectures entitled "A Survey of Contemporary Psychology" which has been repeated several years for audiences of university students and others interested in psychology. The author's thanks are due to many students and colleagues who have offered helpful criticisms at various stages in the long process of producing the book.

R. S. WOODWORTH.

Columbia University,
March 25, 1931.

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CHAPTER 1

THE BACKGROUND OF OUR CURRENT DISPUTES

In these chapters I propose to regard all of the twentieth century thus far as being contemporary for our purposes.

These years have been intensely active in psychological circles. The number of psychologists has increased tenfold, and the amount of research has gone up in proportion. Closer contacts have been established with other sciences, both the biological and the social, as well as with practical fields where psychology can be applied—education, medicine, law, business, and industry. But it is not my purpose to survey the gradual accumulation of psychological knowledge, nor to show you the psychologists actually at work in their laboratories and examining rooms. I am not going to set before you the solid results that have been achieved, nor the questions settled to every one's satisfaction. Rather, my object is to bring forward unsettled questions of fundamental importance, questions on which keen debate is going on, doubts whether psychology is on the right track, efforts on the part of one or another leader to steer the group in some new direction.

The past thirty years have been remarkably productive of new movements in psychology, with the result that we now see the curious phenomenon of schools differing radically from one another in their ideas as to what psychology should be doing and how it should go to work. These schools remind one of schools of philosophy, and are scarcely to be paralleled at present in the other natural sciences. Perhaps their existence in contemporary psychology is a sign of the youth of our science and of the vast number of unexplored possibilities that we have still to examine, as well as of our recent departure

from the parental household of philosophy. How important any one of them is can scarcely be told till they have had more time to develop. Meanwhile, they are certainly interesting to any one who wants to obtain suggestive ideas. They are contemporary schools in that all have arisen recently, while none as yet shows any signs of early death.

Before turning our attention to one after another of the new schools, we may well glance briefly at the psychology that preceded our contemporary period. Each school began as a revolt against the established order, and cannot be understood without taking account of its historical background. We should know something of the established order of 1900, against which the present schools have revolted. Now to understand that established order, we have to remember that it was itself at one time new and revolutionary. Any school, no matter how radical it seems at first, is likely to become an established order if it has any success, and in time fresh revolts will arise against it. In fact, we are already witnessing revolts against such modern schools as behaviorism and psychoanalysis on the ground that they are "traditional." Similarly, the established order of 1900 was left over from an earlier revolt. Away back at the beginning of the modern scientific movement in the seventeenth century, we find such men as Descartes and Hobbes rebelling against the traditional psychology of that day, and so giving us the beginnings of what we call modern psychology in distinction from the ancient and medieval.

I cannot fairly characterize the pre-modern psychology in a few words, and those who make a careful study of it assure us that there is really much in it that has quite a modern flavor. Valuable insights in psychology have been newly discovered time after time, from the days of Plato and Aristotle to the present. But the pre-modern psychology, as it appeared to the earliest psychologists who can be called modern, suffered from too much complexity, too many irreducible "faculties,"

and too little relationship with the physical world. Sensation, imagination, memory, thought, desire, and bodily motion appeared like so many different types of activity, all of them radically different from the processes of physical nature, which also appeared to be of many distinct types.

The Bold Beginnings of Modern Psychology

Though we still think of psychology as a young science, we are not to suppose that our generation is the first to attempt lining up mental science with physical. Scarcely had astronomy and physics led off in the early modern scientific movement when the psychologists of the day joined the procession. Early in the seventeenth century, Galileo and others revolutionized physics by showing that many and perhaps all physical processes could be described in terms of motion and inertia; and Harvey, by discovering the circulation of the blood, made a start toward explaining physiological processes in physical terms. Without delay, Descartes sought to apply physics to the understanding of animal and human behavior. Behavior he based on what we now call reflex action; and a reflex he conceived as a motion of some fluid along the nerves from the sense organs to the brain and thence back to the muscles. Thus the physical force or motion that excited the sense organ set in motion a physical process within the body that resulted in muscular movement. The soul Descartes located in the brain, and he supposed it to intervene in certain cases between the incoming and outgoing motions in the nerves. In animals, however, as he believed, there was no soul and all behavior consisted purely of physical motion. The human soul, with its faculty of thinking, he held to be non-physical. Hobbes went this one better, since for him all mental as well as bodily processes were reducible to motion. External motion striking the sense organs was communicated to the nerves, brain, and heart, and the internal motion, once started, persisted by in-

ertia in the form of memories and ideas. He reduced all mental processes to the common basis of motion and thus brought them into line with physical processes. Hobbes's revolt against the faculty psychology was certainly radical, but it was sketchy in detail; so that the task remained for the English psychology of the succeeding century to develop this line of thought, as it did in the "association psychology."

The associationists, the progressive psychologists of the eighteenth and early nineteenth centuries, tried to reduce all mental processes to the single process of association. They gave up Hobbes's inadequate notion of memories as persisting by mere inertia, and sought to explain them by the linkage of one process or "idea" with another. When two processes had been linked in a person's experience, and one of them was later thrown into activity by some external cause, it would in turn arouse the other by virtue of this linkage or association. The associationists found it easy to show how the sequence of thoughts in revery could be brought about by previously formed associations between the thoughts that successively emerge. They further showed how the sight of an object, associated in experience with the feel of it, came to serve as a sign of the presence of the object, and they showed how by similar signs the size and distance of objects could be recognized. They explained that many fears and antipathies could originate in childhood from the association of perfectly innocuous objects or persons with other things that naturally arouse fear or dislike. In similar ways they reduced reasoning, inventing, belief, and action to the one process of association. They studied the laws of association, aiming to reduce them to a single law, and they noted that associations differed in strength according to the frequency, recency, and vividness of the experiences in which they were formed and renewed. With many variations in their views regarding the physical nature of associations, with many applications of their theory to morals, economics, and the social sciences in general, and

in spite of numerous objections raised by their contemporaries to their whole doctrine or to parts of it, the associationists grew in influence and dominated the established order in the psychology of the early nineteenth century.

The New Psychology of the Nineteenth Century

But just as the physics of Galileo's time had an immediate influence on psychology, so, early in the nineteenth century, two newly developed sciences made themselves felt. The wonderful achievements of chemistry led to the idea of a "mental chemistry" which should analyze mental compounds into their elements. Some of the associationists used this idea to explain why many sensations, such as the color brown, the feel of hard or soft, moist or dry, the tone of a violin, and the so-called taste of an orange, which is largely smell, could seem simple and unitary though demonstrably due to complex stimuli—just as the compound water seems as simple and unique as its chemical elements, oxygen and hydrogen. The term association was stretched to cover all sorts of combinations, though, as must be admitted, it lost much of its explanatory value in being thus stretched. However this may be, the notion of an analytical psychology that should take its cue from chemistry and work out elements and compounds in the mental sphere, took firm hold at that time.

The influence of physiology was more far-reaching than that of chemistry, for the reason that psychology is closer to physiology in its problems and in its possible methods. Early in the nineteenth century, when physiology began to make effective use of experiment, it blazed a trail for the advance of its sister science. Out of the physiological laboratory grew the psychological laboratory, though it was not till 1879 that Wundt at Leipzig founded the first active psychological laboratory. Soon there were many laboratories, and the "new psychology," as it was in 1900, was experimental psychology.

It had revolted from the earlier psychology in respect to method and scientific standards, rather than in respect to theory. Where the earlier psychologist had been content to draw his evidence from memory and common experience, with all their uncertainties, this new psychology insisted that data must consist of definite recorded observations. Experiments on the senses and muscular movement had been supplemented by cleverly designed experiments on memory and learning, and hope was strong that all psychological questions could in time be attacked by the new method.

We have not yet displayed the full scope of the psychology of 1900, and our sketch of the nineteenth century would be very incomplete if we omitted to mention the influence of two further sciences that developed rapidly during that period. General biology, and especially the theory of evolution, from 1860 on, brought into view a whole mass of problems that were foreign to the older psychology and also to physiology, chemistry, and physics. Evolution raised the problems of development and of variation. Mental development in the individual and in the race as influenced by heredity and environment, child psychology, animal psychology, differences between individuals and between races and similar topics began to appear in psychological writings toward the end of the nineteenth century, largely through the influence of Darwin and Galton. Psychology thus came into close contact with zoology and anthropology. Tests for measuring individuals were first devised for use in such studies and were added to the laboratory type of experiments as part of the psychologist's stock of methods.

The remaining influence that calls for notice came from psychiatry; and the history of psychiatry in the nineteenth century would well repay extended study. Suffice it to say that the treatment of the insane, the neurotic, and the feebleminded advanced during the century from an utterly unscientific to a highly promising state. Beginning with a classification of the

types of abnormal behavior, scientific psychiatry advanced to a study of the life history of abnormal people. All through the century, psychiatrists were divided into psychic and somatic camps, the one seeking causes in the mental sphere and the other positing some brain lesion or disturbance behind every abnormality of behavior. Brain disturbance was actually found in some abnormal conditions, but could not be demonstrated in others. Where it could not be demonstrated with the methods at hand, the somatists assumed it to exist in some elusive form; and on the whole the somatists were the dominant party among the psychiatrists, and had the most influence on the psychology of the time.

These outside influences that made themselves felt in the psychology of the nineteenth century, raising new problems and leading to the development of new methods of investigation, tended to divorce psychology from its old union with philosophy and to align it with the natural sciences. But the divorce did not take place all at once. We must remember that psychology had been written by philosophers for two thousand years and that it was taught by philosophers all through the nineteenth century. When I first made the acquaintance of psychology, about 1890, it was quite bound up with philosophy. It was taught by a philosopher as an integral part of the course in philosophy. The greatest psychologists of that day, such as Wundt and William James, were also philosophers. James, after writing his great *Principles of Psychology,* turned his attention mostly to philosophy and is best known today as the forceful and winning exponent of pragmatism. Even in his *Psychology* you will find many discussions which today would be regarded as belonging to philosophy rather than to psychology. The philosophers, one may say, had the upper hand at that time, and treated psychology as a subordinate part of their subject. But the experimental or "new" psychologists were not meekly accepting the situation. They were urging the claims of psychology to independence. Beginning about

1890, they succeeded in having professorships and departments of psychology established in the universities. They were founding journals and psychological societies. They did not need in the least to disparage philosophy, but simply to urge that psychology, though still a young science, had grown up sufficiently to leave the parental roof, following the example of the older sciences. It needed its independence in order to develop its own technique, to make its own contacts, to formulate its own conceptions, and to attack problems which, while perhaps trivial or meaningless to the philosopher, emerged from the study of man and promised to lead to a better understanding of man's curious ways.

We have been speaking of the work of the psychologists of the later nineteenth century rather than of their theories and formulas. When they tried to give a formal definition of their subject, and to mark off its domain, they were apt to reach some such statement as that psychology was the science of consciousness. James begins by stating that, "Psychology is the Science of Mental Life, both of its phenomena and of their conditions. The phenomena are such things as we call feelings, desires, cognitions, reasonings, decisions, and the like."[1] Wundt, in 1892, said that, "Psychology has to investigate that which we call internal experience—i.e., our own sensation and feeling, our thought and volition—in contradistinction to the objects of external experience, which form the subject matter of natural science."[2] Sometimes consciousness was regarded as an inner world, distinct from the world of nature outside. Sometimes, in view of the evident fact that the data of any science are obtained by observers and are in the first instance their conscious experiences, psychology was said to deal with the same sort of data as any other science, but to utilize the data in its own way for the study of consciousness itself and not for the study of the objects of which

[1] W. James, *Principles of Psychology*, Henry Holt & Co., 1890, Vol. I, p. 1.
[2] W. Wundt, *Lectures on Human and Animal Psychology*, translated by J. E. Creighton and E. B. Titchener, The Macmillan Co., 1894, p. 1.