BENNETT

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PREFACE

The selection and rejection of material for this book has been an evolution in the classroom during many years of search for (1) that which will function directly in increasing the student's capacity as a learner; (2) that which will afford the most useful basis for a course in teacher-training; (3) that which will best meet the needs for a first course in college psychology; (4) that which, instead of merely skimming the cream of interest, will definitely project the student's interest and expectation toward a further and more adequate pursuit of the subject; (5) that which will best help the young student to maintain his poise amid the dizzying enlargements of his mental horizon as he climbs the ascent of higher education and thinks he sees dark chasms yawning between his new knowledge and his old faith.

It has been the intention to admit nothing which is merely argumentative or speculative, which is not essential to the scientific integrity of the whole plan or practically applicable to the needs of the learner, and to omit nothing which properly belongs in a thorough first course in psychology. The functional viewpoint and the physiological basis have been woven into every chapter. A close-knit system of treatment has been sought which explains all psychical phenomena in terms of associations and progressive integration and the conditions which forward or retard these. Each topic grows directly out of the preceding and usually begins with a connecting summary statement. A sufficiently technical vocabulary has been gradually built up by introducing each word where the connection makes its meaning clear. It is hoped

that nothing has been lost in scope or scientific accuracy by the effort to make statements simple.

The ideal of the book is practical helpfulness. The more nearly a student can be brought to pursue an elementary course in psychology as a *project in the development of his own mind*, the better will be the resulting knowledge of pure psychology, aside from the practical values which are perhaps more important than the scientific attainments. The exercises at the end of the chapters (which the instructor should freely change and adapt to his own and the students' interests) should contribute as largely to clarifying the scientific view as to the attainment of practical values. It is believed that the introspective as well as the pedagogical habit of mind cannot be better acquired than through the abundant use of exercises of this sort.

My sincere gratitude is due to my colleague, Dr. J. R. Geiger, and to my ever-helpful wife for invaluable discussions and criticisms throughout the preparation of the manuscript. If the effort shall prove to be of value my indebtedness is to so many inspiring teachers and texts that I am at a loss to single out the few. For aid in the particular selection of topics and treatment I am indebted to the reactions of hundreds of students during many years of class work.

H. E. B.

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CHAPTER I

THE ART OF LEARNING

Civilization and learning. Progress and civilization consist in better ways of doing things. To dispel darkness we have passed through the successive ages of the grease lamp, the tallow candle, kerosene, and gas, to electric lighting. For communicating thought we passed through centuries of mere gestures and inarticulate cries, of crude hieroglyphics, to the printing press, postal systems, and marvels of the wires and wireless. For carrying burdens we have relieved the backs of men and donkeys by trains and ships of stupendous strength and capacity; while from nature's laborious plan of moving ourselves about with the aid of our feet only we have advanced beyond the wildest dreams of the Arabian Nights to the luxurious swiftness of automobiles, express trains, and airplanes. There are few forms of heavy toil which we have not learned to shift to the untiring accuracy of machinery and the unflagging strength of natural forces. Modern civilization in every field of achievement laughs at limitations and makes the impossible of yesterday the commonplace of today. Each forward step has been a means whereby man's ingenuity has increased the capacity of his body or of his mind to do the things he wants done. Each has been the effect of learning the best from the past and learning how to

pass it on better yet to the future. Only by increasing skill in learning how to know what has been done and how to do what can be done has progress been possible. The advancement of civilization is but the advancement of the power to learn.

Better methods of learning. There are efficient, economical ways of learning, and there are laborious, wasteful, and futile ways. The best modern scientific method of acquiring knowledge or skill is as different from the primitive, unstudied way as an electric light is from a pine-knot torch, or an express train from a pack donkey. It is easy to demonstrate, for example, that any student, by the use of intelligent methods, may acquire a given degree of excellence in penmanship or spelling with the expenditure of a small fraction of the time and energy necessary by the hit-or-miss, "trial and error" methods commonly used by pupils. As truly as one may grow five to eight times as many bushels of corn on an acre of land by the application of modern scientific methods of agriculture as he can by the traditional primitive methods. so he can acquire many times the mathematical skill or historical knowledge in the same number of hours of effort through the scientific direction of his mental processes that he can by the haphazard methods of study used by the majority of students. It is only because learning is so much more subtle a process, because differences in efficiency are so much more difficult to see or measure or demonstrate, that its better methods are not widely known and generally used. Learning is such a private and personal affair, so shut up within each individual engaged in it, so dependent on personal differences in capacity, that people generally have been slow to comprehend the principles of the art, or that there is an art. Even when some individual shows splendid results from the wise use and development of his mind, we are prone to ascribe his success to inborn genius.

Learning and progress. The importance of these better ways of learning, if they can be found and mastered, it is unnecessary to argue. There is no human being in any field of endeavor or walk of life whose success in attaining the things he wants and whose worth to himself and to his fellow men is not determined directly by his success in learning the things it is necessary for him to know or to do to attain that success. Learning is the foundation of every art and every achievement. It is the one great business of childhood and youth and the sole means of progress at every age. Not one of us by taking thought can add a cubit to his physical stature, but each of us by taking thought most certainly can add to and multiply that which is far more important—his mental capacity and spiritual stature, his ability to learn and hence to know, to think, and to do, and therefore to attain or to accomplish whatever things are most worth while.

Limits in learning. These laws of learning are not entirely unknown to anybody who knows anything. Birds can learn to fly, colts to run, and puppies to bark and bite. Every teacher and every pupil may use the best way sometimes, by chance. On the other hand, no human being has ever attained the ability to learn all sorts of things always in the best possible way. No one who reads this book will be wholly ignorant of how to learn at the beginning nor nearly perfect in the art when he finishes; but vitally important for his success in life is the degree of his advancement along the line. Doubtless some have inherited greater possibilities for mental development than have others, but the most gifted often squander their powers through failure to make the best use of them, while those less favored far outstrip them by learning to make every effort count. One's practical concern is not with the problem of what capacity he has inherited from his ancestors, but with the live question of what he can make of that which he has. Nothing he now can do can affect

the former problem; everything he does will inevitably affect the latter. Neither problem can be solved except by the purposeful development of every capacity to the utmost. However able one may now be to gather knowledge and to acquire skill and power, yet greater ability is within his reach. "To him that hath shall be given." The more learning skill one has, the more easily he can increase it. As there is no limit to the valuable things there are to learn, so there is no limit to the capacity one may develop for learning them. The limiting factors in learning achievement are found in the limits of one's determination, his persistency, his confidence in his own capacity, his faith in himself.

Not secrets but science. These better methods of learning are not chance discoveries nor patented devices. They are the scientific selection and development of the methods which have evolved slowly out of the primitive efforts of the race. If they were tangible, material things which could be patented, manufactured, packed up in attractive cartons, and sold to the public, they would soon be in as general use as electric-light bulbs; but because they cannot be exploited, because they are things that one must do and not buy, because they are not advertised on the billboards and in the newspapers, because they are made of ideas, purposes, and ambitions rather than wood, metal, and fabric, they cannot hope for sudden popularity or general adoption. Yet, in their values to their possessors they exceed all other modern devices. The mastery of the better modes of learning will not be attained by following any set of rules or by being initiated into the mysteries of any set of tricks. Certain "systems" of memory training and mental development are, indeed, widely advertised and sold. They have much value through their successful schemes of getting the learner to do the things they teach him that he should do. But learning power depends on no secrets or mysteries. It is a matter of

understanding and applying practically the established facts as to the nature and working of the mind. It is a practical knowledge and use of psychology—the science of the mind.

What is mind? Just what we mean by mind is of little consequence here. It is a very difficult matter for the human mind to define itself. It is not at all necessary to define a thing in order to learn about it or to make the best use of it. We may very profitably study about and make use of light, heat, number, color, honor, hope, life, and other vital things without being able to define them. Neither is it necessary here to say just what psychology is. We can do that better after studying it than before. What is more important is to know how to study it to best advantage. With this end in view we shall give at the beginning of our study a few practical directions. The purpose of these directions is threefold: first, that you may the more successfully study the book itself; second, and more important, that by consciously directing the use of your mind in this study you will better understand the mind you are using; third, and most important, that by beginning right now to learn as efficiently as possible, you will adopt the best way of learning to learn efficiently. The principles follow.

Begin now. Mind, like muscle, increases its strength only when the strength it has is fully employed. To work below one's capacity is to reduce that capacity. If you can lift a hundred pounds now, you will never get the ability to lift two hundred by lifting fifty. You can never improve the quality of your penmanship by writing below the level of the best that you can do. So you cannot hope to achieve better modes of learning unless you make use of the best you have. If you will begin at once to apply each of these principles of learning conscientiously and persistently, your learning power will be decidedly increased by the time you have finished the study of this book. But if you are unwilling

to make the effort to put into practice each new principle as you learn it, you will weaken your power either to learn principles or to put them into practice. The first principle for attaining greater mind and will power, greater ability to learn, is to use immediately what you have learned. Form the habit of seizing promptly upon every good method and making a habit of it. Begin now.

Learn strenuously. Learning is activity. It is what one does, not what happens to him or is done to him. It depends not on what the teacher says or what the book contains, but on what the mind of the learner does in response to the teacher and the book. To the earnest student there is no such thing as absorbing knowledge; neither can it be crammed, instilled, drilled, poured, hammered, or driven in, except so far as these oft-used expressions really mean the activity of the learner's own mind. Nor is knowledge or other mental ability added to the mind as bricks are added to a wall, by being stuck on by some mental mortar, but as limbs and fruit are added to a tree, by growth from within; or as strength is added to one's biceps, by exercise and effort. Mind is not built. It grows; but it grows only by its own activity. Therefore, when you study or when you listen to instruction assume an active attitude. Key yourself up for a vigorous, aggressive, determined struggle for the mastery of ideas and the attainment of habits. Learn to work hard: it is the surest way to make your work easy.

Question constantly. All real study is reasoning, and all true reasoning is asking and answering questions, setting and solving problems. You may read a simple story by passively letting the author carry you along as he chooses, but in a serious work from which you seek to gain knowledge, reading without a challenging question in mind is quite useless. Aimless reading accomplishes its aim—nothing. At every step in study, as in all intelligent work, one must know just

what it is he is trying to do. What, am I supposed to know from this paragraph? What is the author's meaning in this statement? What have I gathered from this chapter? What are the important points in this passage? Which points should I remember? Which will be of service to me? How can I make use of them? These are the sort of questions with which one should be constantly checking up on his reading. In very easy reading the questions are often answered before they can be asked; but where study is required the questions should be very definite and formal, even to the extent of being asked aloud by the reader and answered as definitely. Apply this sort of questioning to these chapters and see how much more clear and effective they become. Begin now to form the invaluable habit of keeping up a questioning attitude in all study.

Organize. Organizing is essential to successful study. It consists in setting for oneself and solving the problem, "What are the main points of this selection and how are they related to each other?" Organizing is the reducing of the many details of a lengthy study or discussion to the few central points which are vital to it. It is the condensing of many things into a few, but these few such as to include the many. It is especially the relating of these essential points to each other and to the whole so that the whole is seen as a single unit and can be summarized in brief by the student. Thorough organization demands, further, that the reader see clearly the relation of the whole and its parts to such other related knowledge as he may have. Chapters, books, and scientific articles are frequently organized by their authors, as an aid to the readers, in brief summaries placed at the beginning or close; but for a student who is learning to think in a new subject, it is the act of organizing rather than a ready-made summary which is of value. The student's mastery of a chapter can best be indicated by his ability to organize it for himself. Form now the habit of pausing at the end of each chapter or other division of a book, or at the close of a lecture, to organize its contents in your mind.

Outline. Outlines are perhaps the best method of making your organization clear and definite and of impressing it upon your mind. An outline is a brief organization reduced to writing in such form as to show clearly, at a glance, the relation of the parts to each other. By means of indention, numbering and lettering, underlining and similar devices. the outline should be a diagram of the thought of him who makes it. Like a good advertisement, an outline should show much white space in which the significant words stand out boldly and strike the eye with a force that cannot be ignored. Not only should the words that count most leap out from the page at the reader, but the relative position, grouping, and size of the writing should indicate unmistakably the relation of points to each other. The very few central heads lined up against the left margin should constitute in themselves a complete but very brief outline. The main subordinate points should show clearly by indention to what they are subordinate and the coördination among themselves. Minor points, put farther to the right, should modestly withdraw into smaller and very compact writing. Make your outline look like a skeleton of the lecture or selection as you feel it to be built up. Never let your outline degenerate into a mere copying down of headings or an unorganized list of topics strung along on a dead level. Let it be the diagram of your own thought. An outline is valuable for review and ready reference, but its greatest value is attained in the making of it. It necessitates clear thinking and insures a high order of remembering. The process of outlining may be slow and laborious at first, but skill and rapidity are quickly attained if you begin now and always do your best.