

# PSYCHOLOGY AND EDUCATION

BY

ROBERT MORRIS OGDEN

PROFESSOR OF EDUCATION IN CORNELL UNIVERSITY



NEW YORK  
HARCOURT, BRACE AND COMPANY

COPYRIGHT, 1926, BY  
HARCOURT, BRACE AND COMPANY, INC.

Printed in the U. S. A.

TO  
KURT KOFFKA

## PREFACE

In dedicating this book to Professor Kurt Koffka of the University of Giessen, I am expressing not only the homage of a friend and admirer but also my indebtedness for much that has gone into its making. In the teaching of educational psychology, which has been my chief concern during the past nine years, I have found myself out of sympathy with the "mechanism" which has supplied the laws and principles of many current pedagogical doctrines. But I have been equally averse to "purpose" as the keynote of mental and bodily behavior. The search for a truly functional concept which I could adopt as the basic principle of behavior was not rewarded until I read Koffka's *Grundlagen der Psychischen Entwicklung* (1921). My translation of this book, entitled *The Growth of the Mind* (1924), afforded me an opportunity to become intimately acquainted with the point of view of *Gestalt* psychology, and its application to child study. So readily did I find my way under this new guidance, that the materials of my introductory course at Cornell University seemed to shape themselves without effort into a systematic form, and problems in educational psychology, such as that of explaining how we learn a new act, seemed to clarify themselves at once. After re-reading some of my earlier publications, I am tempted to believe that this process of orientation was, indeed, a natural one on my part, and that the notion of *Gestalt* was implicit in

my own thought long before it became explicit through the reading of Koffka, Wertheimer, and Köhler.

However that may be, my debt to Koffka in particular is very great, and I freely confess that much of the material in the present volume is to be found in his *Grundlagen*. But my debt to him is not limited to his book alone. The fortunate and agreeable experience of having him as a colleague at Cornell University during the academic year 1924-25 made possible a personal contact from which I have greatly benefited. In the give-and-take of informal discussion, many problems were carried further on their way to a solution. The first half of my book, already in manuscript, was read and criticized by him, as was also the entire work in the outline-form of a syllabus which I was using with my classes in lieu of a textbook.

I believe that I have thus been enabled to give for the first time to the study of education a psychological background which commends itself as an orderly and systematic development of scientific principles derived from factual observation rather than from "neurological tautologies." While the careful critic will no doubt discover errors both of omission and commission, these errors, I think, will be found capable of correction without altering the fundamental principles upon which the treatment of the subject has been based. So many are the supporting bits of evidence from other sciences, both biological and physical, that I am loath to believe that the genetic point of view I have adopted can be easily overturned by any revolutionary method of approach to the subject.

On the other hand, I fully realize the limitations of the book. Many topics distinctly psychological in nature have for lack of space been omitted, and the development of others has been for the same reason barely indicated. In an effort to deal with the subject in a straightforward and non-controversial manner, I have avoided theoretical discussion wherever I could. This, however, was not always possible; and, in consequence, to the beginning student and to the teacher untrained in psychology, some portions of the book will perhaps prove harder reading than others. To such persons, therefore, I suggest that, on first reading, the following sections may be passed over: 7, 22, 23, 27, 31, 32, 33, 62, 63. Not only do these sections contain theoretical discussions involving some intrinsic difficulty, but they also bear the implications of a philosophy of education which goes beyond the limits of the present work. In the syllabus mentioned above were sketched several additional chapters which carried the discussion of these topics to a greater length. But when I began to prepare the final manuscript for the press, I found that these chapters were ranging too far afield, and that at best their inclusion would be but a sort of philosophical appendix to a work which aimed to be an introduction to the psychology of education. I have therefore reserved these topics for treatment in a companion volume to be entitled *Philosophy and Education*.

In the matter of terminology I have carefully avoided the terms *conscious* and *consciousness*, chiefly in order that I might emphasize the functional aspect of psychology as a key to

behavior, rather than because I have any aversion to these terms in their proper context. I have likewise avoided the term *tendency* on account of its teleological implications. *Attention*, a third source of ambiguity in many psychological writings, I have treated briefly in § 41; otherwise I have found no occasion for employing it. I would defend the use of *pattern*, *form*, *figure*, and *configuration* as equivalents for the German term *Gestalt*. *Configuration*, the more technical of the four, is employed in the latter portion of the book where the implications are phenomenal or experiential. Since applied psychology is always "functional," I have not thought it necessary to bear constantly in mind the possible distinction of "function" and "structure"; consequently, the various terms used for *Gestalt* I have defined by their contexts rather than by formal definitions. I have been much more intent upon describing behavior and its phenomena than upon referring them to terms with supposed magical potencies of explanation. In this connection I am reminded of a remark by Professor Köhler that the word *Gestalt* is taboo in his laboratory at the University of Berlin, and no one is permitted to employ it without at once adding a description of the phenomenon so designated. *Configurationism* is an execrable word, and to employ it as a shibboleth is to do a disservice to an accurate description of facts.

In addition to my debt to Koffka, and to his co-workers, including Köhler and Wertheimer, I desire to acknowledge the valuable criticism of my friend and former colleague, Seth Wakeman, Professor of Education in Smith College,

particularly in the writing of the final chapter on "The Measurement of Intelligence." And last, but not least, I owe a profound debt of gratitude to my friend Professor Joseph Quincy Adams, who read the entire manuscript before printing, and kindly assisted me in the arduous labor of correcting the proofs.

R. M. OGDEN.

Ithaca, New York,  
March 2, 1926.



# CONTENTS

| CHAPTER   | PAGE |
|---|------|
| <b>I. THE EDUCATION OF THE CHILD</b>                        |      |
| 1. The Nature of Childhood . . . . .                        | 3    |
| 2. The Problem of Education . . . . .                       | 5    |
| 3. Nursing . . . . .  | 8    |
| 4. How, When, and Why Nature is Right . . . . .             | 12   |
| <b>II. ORIGINAL FORMS OF BEHAVIOR</b>                       |      |
| 5. The Nature of Instinct . . . . .                         | 18   |
| 6. The Nature of Reflexes . . . . .                         | 20   |
| 7. The Logic of Instinct . . . . .                          | 24   |
| 8. Tropisms . . . . .                                       | 31   |
| 9. The Distinction Between Instincts and Reflexes . . . . . | 34   |
| 10. Fear, Rage, and Love . . . . .                          | 35   |
| 11. Habit and Volition . . . . .                            | 38   |
| <b>III. THE CLASSIFICATION OF INSTINCTS</b>                 |      |
| 12. Difficulties in Observing Human Instincts . . . . .     | 41   |
| 13. The Instincts of <i>Ammophila</i> . . . . .             | 44   |
| 14. Three Modes of Instinctive Behavior . . . . .           | 52   |
| <b>IV. INDIVIDUAL INSTINCTS</b>                             |      |
| 15. Fear and Rage . . . . .                                 | 55   |
| 16. Hunger, Thirst, and Curiosity . . . . .                 | 57   |
| 17. Acquisitiveness . . . . .                               | 59   |
| 18. Constructiveness . . . . .                              | 63   |
| 19. Adornment . . . . .                                     | 65   |
| 20. Cleanliness . . . . .                                   | 66   |
| <b>V. THE INSTINCTS OF SEX</b>                              |      |
| 21. Mating . . . . .  | 68   |
| 22. Gradual and Saltatory Development . . . . .             | 70   |
| 23. The Transitoriness of Instinct . . . . .                | 73   |
| 24. The Parental Instinct . . . . .                         | 78   |

| CHAPTER   | PAGE |
|---|------|
| <b>VI. SOCIAL INSTINCTS</b>                               |      |
| 25. Communism . . . . .                                   | 81   |
| 26. Leadership . . . . .                                  | 86   |
| 27. Integration . . . . .                                 | 89   |
| <b>VII. Imitation and Play</b>                            |      |
| 28. Imitation . . . . .                                   | 94   |
| 29. Play . . . . .  | 101  |
| 30. Summary of Instinct . . . . .                         | 105  |
| <b>VIII. SITUATION AND EXPERIENCE</b>                     |      |
| 31. The Nature of the "Situation" . . . . .               | 109  |
| 32. The Nature of "Experience" . . . . .                  | 114  |
| 33. The Principle of Genetic Identity . . . . .           | 118  |
| <b>IX. PERCEPTION</b>                                     |      |
| 34. Perception as a Pattern of Behavior . . . . .         | 124  |
| 35. The Æsthetic Nature of Perception . . . . .           | 130  |
| 36. The Acquisition of Skill . . . . .                    | 140  |
| <b>X. AFFECTION</b>                                       |      |
| 37. Perception and Affection . . . . .                    | 147  |
| 38. The Pedagogy of Affection . . . . .                   | 153  |
| 39. Sentiment . . . . .                                   | 155  |
| <b>XI. SENSATION</b>                                      |      |
| 40. Affection and Sensation . . . . .                     | 159  |
| 41. Attention . . . . .                                   | 161  |
| 42. Sense-Differences . . . . .                           | 163  |
| 43. The Qualities of Sensation . . . . .                  | 170  |
| <b>XII. MEMORY</b>  |      |
| 44. Types of Revived Experience . . . . .                 | 178  |
| 45. The Laws of Memory . . . . .                          | 182  |
| 46. Factors Favoring Recall . . . . .                     | 195  |
| <b>XIII. EXPERIMENTS ON MEMORY, AND THEIR APPLICATION</b> |      |
| 47. Experiments on Memory . . . . .                       | 207  |
| 48. Memory and Imagination . . . . .                      | 212  |
| 49. Imaginal Type-Distinctions . . . . .                  | 214  |
| 50. Methods of Memorizing . . . . .                       | 218  |

| CHAPTER   | PAGE       |
|---|------------|
| 51. Observation and Report . . . . .                  | 224        |
| 52. The Law of Precision . . . . .                    | 233        |
| <b>XIV. THE PROCESS OF LEARNING</b>                   |            |
| 53. Particularization . . . . .                       | 239        |
| 54. Differentiation . . . . .                         | 244        |
| 55. Assimilation . . . . .                            | 250        |
| 56. Gradation . . . . .                               | 255        |
| 57. Re-definition . . . . .                           | 263        |
| 58. Clever and Stupid Errors . . . . .                | 268        |
| 59. Technique and Intelligence . . . . .              | 272        |
| 60. Summary . . . . .                                 | 277        |
| <b>XV. THE PATTERNS OF LEARNING</b>                   |            |
| 61. Formal Principles . . . . .                       | 281        |
| 62. The Origin of an "Outer World" . . . . .          | 285        |
| 63. The Creation of "Signs" and "Symbols" . . . . .   | 288        |
| 64. Naming and Numbering . . . . .                    | 290        |
| 65. The Limits of Perception . . . . .                | 298        |
| 66. The Constancy of Perceived Forms . . . . .        | 302        |
| <b>XVI. THINKING AND REASONING</b>                    |            |
| 67. The Beginnings of Formal Logic . . . . .          | 311        |
| 68. The Stages of Reasoning . . . . .                 | 313        |
| 69. Judgment . . . . .                                | 317        |
| 70. Volition . . . . .                                | 319        |
| 71. Habituation . . . . .                             | 320        |
| 72. The Pedagogy of Judgment . . . . .                | 323        |
| <b>XVII. THE MEASUREMENT OF INTELLIGENCE</b>          |            |
| 73. The Empirical Character of Mental Tests . . . . . | 326        |
| 74. Critique of the Tests . . . . .                   | 330        |
| 75. Physiological Development . . . . .               | 334        |
| 76. Performance Tests . . . . .                       | 338        |
| 77. Social Efficiency . . . . .                       | 339        |
| 78. The Concept of Intelligence . . . . .             | 345        |
| 79. Personality and Character . . . . .               | 349        |
| <b>INDEX . . . . .</b>                                | <b>357</b> |

# PSYCHOLOGY AND EDUCATION



## CHAPTER I

### THE EDUCATION OF THE CHILD

#### § 1. *The Nature of Childhood*

When a child has exhausted the possibilities of the home environment and begins to show a marked interest in co-operative play with other children, he is thought to be ready for a formal education. Knowing very little of his true inward state of mind, we are inclined to regard him as a "mere child" who has now come along to a stage of development where we can hold him to account for his actions, and force upon him the routine of adult life. Accordingly, we send him to school where he must behave himself and "do what the teacher says."

"What the teacher says" is presumably what he should know for his future good—including a great deal that it would never occur to him to find out for himself. The mysteries of the three R's in particular are not so much revealed and clarified, as they are forced upon him and drilled into him, the assumption being that somehow practice in these black arts will in time bring mastery and comprehension in its wake.

Yet how little we understand child-life if we permit such a view to guide our educational methods! Instead of starting his education when he enters school, the child has already achieved in the first six years of his life far more

than he will, or ever can, achieve thereafter in any similar period of time, or even in the entire remainder of his career. Instead of the assumption that an infant is a groping aimless creature, stumbling here and there upon an appropriate mode of behavior which his environment selects for him, a true insight will show the creative efforts and achievements of infancy to be more tremendous in their effects and more far-reaching in their consequences than anything which later life can accomplish.

To many readers this statement will seem dogmatic; for a contrary view that education is essentially a matter of habit-formation is widespread, and has furnished the basis of many methods of instruction, and many theories of education. The criticism of this view will occupy us later on. At present we shall consider what we know about the kingdom of the child. The idea is not at all a new one; indeed most of the current movements in education have the avowed purpose of liberating the child to follow his own will and intention; yet this laudable undertaking suffers now quite as it did in the hands of the great reformer, Jean Jacques Rousseau, who startled the world in 1762 with the publication of his treatise on education entitled *Émile*. It is one thing to maintain in general terms, as Rousseau did, that "nature is right," and quite another thing to understand how and when and why she is right. Although more than one hundred and sixty years have elapsed since Rousseau turned the thought of educators "back to nature," his doctrine has served to quicken the imagination of edu-

cators without, however, being able to define the facts of child-life and human development. The rise of a science of human nature undoubtedly owes much to this impetus; but we are still at the beginning of a long journey into a mysterious region, for we have yet to discover the precise place of mind in nature.

## § 2. *The Problem of Education*

While it is the aim of this book to avoid controversy, and to give instead as simple and straightforward an account of mind and its education as the limited state of our knowledge will permit, it is impossible to overlook those teachings, already referred to, which find in habit-formation both the method and the end of education. But instead of opposing those views at once with a contrary theory of creative achievement, let us first try to state the problem of education, and then proceed to check all inferences which can be derived from such a statement by whatever facts careful observation of the behavior of children has revealed.

What then is Education?

*Education is a social process of change in the behavior of living organisms.* This answer, simple as it is, contains several important terms, each of which stands in need of definition. First, education is *social*, for it involves the participation of different individuals. Secondly, it is a process of change—which suggests something more than a mere change in time or place—for the word *process* signifies *progression* in a series of events which are bound to-



gether, and which pass from a beginning to an end, or perhaps in a circuit which fulfills its destiny by turning full circle upon itself. The educative process is no arbitrary change, but a systematic and ordered sequence of events. We do not attribute education to a stone which falls from a precipice into a gorge, even though in so doing it should dash itself to pieces on the rocks below; neither do we think of a stream of water as educating the soil over and through which it passes in its turbulent course, even though it does shape and mold its bed by its flow.

Furthermore, the changes wrought by education are changes of *behavior*. But what do we mean by behavior? A social process is here implied, for the term suggests the manner of conducting oneself, and the treatment one accords to others. Even when used for things instead of persons, as when we speak of the behavior of a machine or of a chemical, it is action directed from within rather than from without which warrants our use of the term. Thus we seem to feel a human or a personal touch in the behavior of the thing—something like a personal quality, such as demeanor, deportment, or conduct.

This brings us to the last term of our definition: *living organisms*. Personality belongs to living organisms, and it is with these that we are concerned in education. Furthermore, we are concerned with organisms, not merely as they live and grow, but as they behave and conduct themselves in accordance with the conditions of living and growing. Thus the “process of change” which is a proper subject