

PREFACE

THIS BOOK: WAS begun in 1934 at the suggestion of Professor F. C. Bartlett.¹ The first draft was practically finished when war broke out, and for various reasons the book had to be laid aside for nearly ten years. The whole manuscript has now been revised and a good deal of it rewritten.

Those who have read the manuscript in duplicated form at various stages have made many suggestions about its content. Some, for instance, have urged that the section on the Wurzburgers, which now occupies three chapters, should be deleted or at least shortened. Others have been equally urgent that these chapters should be left intact. With the exception of some pruning where the argument seemed to have become diffuse, the Wurzburg chapters have been left substantially as they were originally written, and for the following reasons. The contribution of this group still stands in its own right as the most massive, sustained, and acute experimental attack on the problem of thought. It is true that the vocabulary, and behind it the general theory, employed by these men is now out of date, and that for this reason their work often seems arid and devoid of significance for modern psychology. But actually they were concerned with a set of general problems that are still very much alive to-day. Of these, the most important can thus be stated: Can organic response be reduced without remainder to response strictly correlated with individual receptors? The problem has a long history and is still being debated. At the present time, for example, Hull and his pupils are maintaining a theory of behavior built on the foundations laid by Pavlov, and which maintains that behaviour can be explained in terms of fundamentally unchanged motor response to specific receptor stimulation.² The controversy concerning "imageless thought" debated the same problem, couched, however, in terms of experience. The Wurzburgers were concerned with the question whether Experience can be built up out of experiences referable to particular sense modalities. The problem is the same, though the co-ordinates have been changed. In the same way, the Wurzburg workers found it.

¹ Now Sir Frederic Bartlett.

² The controversy over the "continuity theory" of learning sprang of course from the original theory. For a simple statement, both of Meaning as treated in terms of the referential function and of much of the material collected in this book, see G. Humphrey, 1948, *Directed Thinking* (Dodd Mead).

necessary to postulate the "Determining Tendencies" and the "Task" to supplement their version of Associationism, which is fundamentally a peripheral hypothesis. The modern counterpart is the "Motive", which has been extensively investigated during the past twenty years, and which sprang out of exactly the same difficulty as theirs.

Thus, in addition to its intrinsic merit, the work of the Wurzburgers gives a kind of preview of work which is central for modern experimental thinking. No apology should be necessary for treating it in some detail. It may be added that the original sources of both the Wurzburgers' work and that of their successor, Selz, are becoming increasingly difficult to obtain.

Another point of criticism has been the treatment of meaning which, in the original writing, was described by the use of the term "referential function." This appeared to be at least a neutral term, stating the facts if it did not illuminate them. However, it now seems fairly clear that many of the difficulties that have surrounded the concept of meaning grew up at a time when psychologists had almost forgotten that a human being is a biological system living in a biological environment. When thinking man is considered strictly together with his environment, the problem of meaning largely dissolves into a set of problems familiar to the modern experimentalist as well as to the analytic psychologists of the last generation. That is, there is no psychological problem of meaning per se. With any philosophical problems that the term meaning may engender, this book does not concern itself.³

In general, the book is intended to give a critical treatment of experimental work that has already been done. It can of course make no pretence to be exhaustive. There are, no doubt, important researches that have been missed, and it is obvious that whole areas have been left uncovered. It has been urged, for instance, that the book must include chapters on the psychoanalytic theory of thinking, on pathological thinking, on the comparative psychology of thinking, and on children's thinking. But what has been written is already long enough. As it is, the present lag in publishing has made it impossible to include several important researches which should have been treated in a publication dated 1951. Chief of these is Professor Piaget's stimulating though difficult volume, *The Psychology of Intelligence*, the French edition of which escaped the writer's notice. By its nature, the treatment of the material included was almost necessarily historical, especially in the first third of the book. This

³ See Humphrey, *British Journal of Psychology*, 43, 3 and 4, 1951 (in the press), for a fuller treatment than that given in this book.

has meant that the earlier work must be described in the language of its time; that is to say, in terms which, because of their implications, often offend a modern psychologist. Since for reasons already given the work was too important to be left out, the alternative would have been to attempt a translation into those more biological terms which would have been more acceptable to the writer and the modern reader alike. This would necessarily have involved a certain dishonesty.

If this strictly introductory volume serves to help those who are planning psychological research into the all-important subject of the intellectual processes of human beings, its purpose will have been fulfilled.

It is a pleasure to acknowledge the help of the many, on both sides of the Atlantic, who have critically read various chapters. I think in particular of Professors D. O. Hebb, Martyn Estall, and Gregory Vlastos, all of them at one time my colleagues. Professor R. B. MacLeod read the whole manuscript through with a class, and suggested that I really must do something about Meaning. On this continent, also, I am grateful to Professor R. C. Oldfield, and to my present colleague, Mr. O. L. Zangwill. Mr. Zangwill's often disconcerting criticisms have been of special value. I wish to thank also the staff of the Institute of Experimental Psychology, who have patiently endured what must at one time have seemed an interminable task. And finally, in my own family, I am most of all grateful to my wife, from whom the book has stolen many hours that rightly belonged to her.

George humphrey.

*Magdalen College,
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