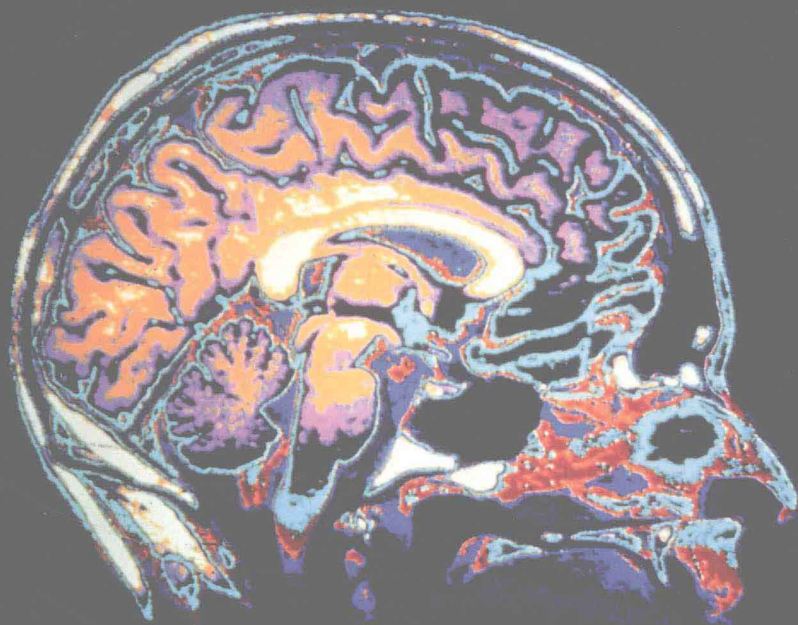


Third Edition

H i s t o r y o f



P s y c h o l o g y

David Hothersall

History of Psychology

THIRD EDITION

David Hothersall

The Ohio State University

McGraw-Hill, Inc.

*New York St. Louis San Francisco Auckland Bogotá Caracas Lisbon
London Madrid Mexico City Milan Montreal New Delhi
San Juan Singapore Sydney Tokyo Toronto*

*This book was set in Palatino by Ruttle, Shaw & Wetherill, Inc.
The editors were Brian L. McKean, Laura Lynch, and Fred H. Burns;
the production supervisor was Denise L. Puryear.
The cover was designed by Carol A. Couch.
R. R. Donnelley & Sons Company was printer and binder.*

HISTORY OF PSYCHOLOGY

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This book is printed on acid-free paper.

9 10 11 DOC/DOC 0 9 8 7 6 5 4 3 2

ISBN 0-07-030512-9

Library of Congress Cataloging-in-Publication Data

Hothersall, David.

History of psychology / David Hothersall.—3rd ed.

p. cm.

Includes bibliographical references and indexes.

ISBN 0-07-030512-9

1. Psychology—History. I. Title.

BF95.H67 1995

150'.9—dc20

94-40797

History of Psychology

About the Author

DAVID HOTHERSALL is professor of psychology at The Ohio State University. Born and raised in England, he came to the United States in 1965 and received his Ph.D. from the University of Tennessee in 1968. Since then he has been at Ohio State. The recipient of a number of teaching awards, including Ohio State's Alumni Award for Distinguished Teaching, he has taught courses on the history of psychology to both undergraduate and graduate students. In addition to the history of psychology, his research and teaching interests include comparative, experimental, and physiological psychology. He has written numerous papers on these topics as well as an introductory psychology text published in 1984. In 1990 he was appointed the University Honors Director at Ohio State.

As Before:
To Lesley, Carol, Mark, and Hilary

Preface

A third edition is both an occasion to affirm the approach of earlier editions and an opportunity for revision and change. In this third edition of *History of Psychology*, I have continued to use a biographical approach, emphasizing both the contributions of earlier psychologists and the circumstances of their lives that influenced their contributions. As in the first two editions, historically significant psychologists are presented as men and women who not only made important contributions to the development of psychology, but also as people who had successes and failures, triumphs and tragedies, hopes fulfilled and hopes dashed. I believe such a biographical approach to be effective in countering the unfortunate assumption made by so many students that the history of psychology is dull, tedious, and largely irrelevant to contemporary psychology. Many of the lives and careers of psychologists described in this book were far from dull, and their contributions continue to be important influences on contemporary psychology.

Psychology is fortunate in that there is a lively and active area of scholarship and research on its history. Many works on the history of psychology are published each year, and the years since publication of the first edition in 1983 have been a particularly active period. The majority of the new references in this edition are to papers and books published since 1990. That is a reflection of the impressive scholarship being published on the history of psychology. I am most grateful to all those scholars whose work has influenced this *History of Psychology*.

Changes in the Third Edition

Time lines now occur near the beginning of each chapter. They place the material presented both in the context of the historical development of psychology and also in a broader cultural setting.

Each chapter has at least one box emphasizing an aspect of the history of psychology. Many of them relate past contributions to contemporary work in psychology.

Increased attention is paid to neglected contributors to the history of psychology, especially women and members of minority groups. Psychology is fortunate in that an active area of scholarship has outlined the work and contributions of those psychologists. As psychology itself has changed to be more inclusive, it is important to recognize neglected psychologists in the past and to understand the barriers and prejudices they had to overcome.

This edition features an enhanced program of illustrations, including both color and black and white figures.

For the first time, an instructor's manual accompanies this book. It was written by my colleagues James T. Austin and Sridhar Ramamoorti. Dr. Austin teaches the undergraduate course on the history of psychology at The Ohio State University. I have benefited greatly from his knowledge and enthusiasm. Mr. Ramamoorti was a student in my graduate history of psychology course. His academic performance and many excellent, and sometimes critical, suggestions and comments indicated that he would be an excellent co-author of an instructor's manual. That has indeed proved to be the case. The instructor's manual is closely matched to the text and includes chapter outlines and summaries, teaching topics and tips, including highlighted lecture topics and suggested class exercises. Listings of resources include additional readings and film and videotape resources. For each chapter, a test bank has been compiled that includes both full-length and short-answer essay questions and matching, multiple-choice, and true-false items. Many users of earlier editions of *History of Psychology* requested such a resource. It is a pleasure to be able to respond to their requests.

As was the case with the first two editions, this *History of Psychology* is intended for undergraduate students majoring in psychology and for beginning graduate students. Major goals have been to encourage undergraduate students' interest in psychology and to reinforce graduate students' commitment to psychology as a profession. The letters I have received from students who have read this book and from faculty members who have used it in their classes have been most welcome. I hope that there will be many more from readers of this edition.

ACKNOWLEDGMENTS

I consider myself most fortunate to have received enthusiastic support from many people in writing this edition. In the College Division of McGraw-Hill, Executive Editor Christopher Rogers and Psychology Editor Brian L. McKean encouraged me to work on a third edition and have been strong supporters of the book. I am especially grateful to my editor, Laura Lynch. Her patience, support, and enthusiasm were invaluable. Fred H. Burns was the Senior Editing Supervisor and Anne Manning the Photo Editor. My sincere thanks to both of them.

The following reviewers read the entire manuscript: Terry J. Knapp, University of Nevada at Las Vegas; Alfred D. Kornfeld, Eastern Connecticut State

University; Richard A. Littman, University of Oregon; Donald J. Polzella, University of Dayton; and George Windholz, University of North Carolina at Charlotte. Their comments and suggestions were most helpful. I thank them all.

This edition was written during my first term as the director of the university honors program at Ohio State. While I continued to teach the history of psychology to graduate students, my academic responsibilities changed to include working with high-ability undergraduate students. I have found them to be a delight and can only hope that increasing numbers of such students will consider careers in psychology. My colleagues at the University Honors Center showed much patience and understanding when I needed long blocks of time to work on what came to be known as "the book." I am especially grateful to Arienne McCracken for her editorial and secretarial assistance and to my colleague, the Associate Director of the university honors program, Dr. Mabel Freeman. While helping me to learn myriad administrative details connected with a large honors program and the education of high-ability students, a Sisyphean task if ever there was one, Dr. Freeman supported my faculty role as a teacher of both undergraduate and graduate students and as the writer of this book. To be her colleague has been an honor indeed.

David Hothersall

Contents

PREFACE xi

Introduction	1
1. Psychology and the Ancients	13
2. Philosophical and Scientific Antecedents of Psychology	33
3. Early Studies of the Central Nervous System	79
4. Wilhelm Wundt and the Founding of Psychology	115
5. Edward Titchener and Hugo Münsterberg	141
6. German Psychologists of the Nineteenth and Early Twentieth Centuries	177
7. Gestalt Psychology in Germany and the United States	215
8. The History of Clinical Psychology and the Development of Psychoanalysis	257
9. Forerunners of Functionalism in England and the United States	309
10. Functionalism at the University of Chicago and Columbia University	367
11. Historical Uses and Abuses of Intelligence Testing	397
12. The Behaviorism of John B. Watson and the Work of Ivan Pavlov	447
13. Four Neobehaviorist Psychologists	491

EPILOGUE 535

REFERENCES 543

INDEXES

 Name Index 589

 Subject Index 601

Introduction

RECURRENT QUESTIONS OF PSYCHOLOGY

In 1910, just thirty years after Wilhelm Wundt founded the first psychological research laboratory in 1879, Hermann Ebbinghaus described psychology as having “a long past but only a short history” (Ebbinghaus, 1910, p. 9). Compared with the established sciences of astronomy, anatomy, physics, chemistry, and physiology, psychology indeed had a “short history.” But, as Ebbinghaus noted, psychology’s “short history” was complemented by a “long past” in that many of the questions and concerns of psychology can be traced back to the ancient worlds of Egypt, Greece, and Rome (Chapter 1).

Perhaps the most pressing question throughout psychology’s “long past” has been whether a science of the mind, a psychology, is possible. If it is, how is it to be defined and what should its methods be? In the nineteenth century Auguste Comte denied the possibility of a science of the mind. The mind, Comte asserted, can study all phenomena but its own. His contemporary, John Stuart Mill, refuted Comte’s assertion and proposed a science of the mind, a model of the mind’s operations, and a method for studying its contents (Chapter 2). Mill’s position was adopted and extended by Wilhelm Wundt (Chapter 4) when he established a science of psychology and developed methods that allowed the classic question of the epistemologists—“How do we see and perceive the world?”—to be addressed scientifically. One of the triumphs of the first generation of psychologists was Ebbinghaus’s research on human memory (Chapter 6). He was able to show that memory can be studied scientifically and that the methods of psychology can be as rigorous and its results as reliable as those of older, established sciences. Ebbinghaus’s results remain unchallenged today.

In the twentieth century J. B. Watson (Chapter 12) asserted that psychology should abandon all concern with the mind and study only behavior. His radical proposal and methods gave birth to behaviorism, which through the influence of his successor B. F. Skinner, became the dominant approach to psychology in America. Today, study of the “mind” in the form of cognitive psychology is ex-

perienicing a renaissance within psychology, and much of the research being done by cognitive psychologists bears a striking similarity to research and theories developed by Franz Brentano and Oswald Külpe (Chapter 6) and Edward Tolman (Chapter 13). Psychologists have struggled to define both the subject matter and the methods of psychology throughout its history. Their struggles are described in this book.

A second recurrent question in the history of psychology and philosophy concerns the nature and locus of the mind. As we will see, the ancient philosophers had curious ideas about the seat of the mind. Aristotle located it in the heart. Today we confidently locate the mind in the brain and describe mental functions as products of the brain's operations. The brain is seen as central. Since the nineteenth century (Chapter 3) great progress has been made in understanding the brain, and today's neurosciences, of which physiological psychology, or psychobiology, is one, represent a large collection of investigators from many disciplines. Perhaps because of its complexity—with its 100 billion nerve cells and estimated 1 quadrillion potential connections between them—the brain is often described as the most complex structure ever studied; a complete description of the relationship between the brain and behavior as well as between the brain and consciousness eludes us.

A related problem for philosophy and psychology has been to find a way of describing the relationship between mind (brain) and body—to find a model of their relationship. Are they separate and distinct, parallel, interacting, or inseparably linked? Each of these positions has had advocates, and their views continue to influence models of mind-body interactions. Today's holistic models, for example, in which mind and body are seen as one, are sometimes presented as being new and revolutionary. In fact, such models are ancient and can be traced back through *A Guide for the Perplexed*, a medical book written in the twelfth century by Maimonides, to the ideas of the Greek physician Hippocrates in the fifth century B.C. (Chapter 1).

The relative contributions and importance of nature (the genetic constitution) and nurture (the environment) to developmental and individual differences have been debated endlessly. Aristotle favored an environmentalist position, stressing the importance of nurture. Indeed, it was Aristotle who first used the lasting metaphor of the mind as a *tabula rasa*, or blank tablet, to be filled by experience. Plato recognized the importance of individual differences in temperament, character, and ability, but he believed that such dispositions are largely inborn and therefore adopted the position of the nativist (Chapter 1). Throughout the history of psychology these empiricist and nativist positions recur: empiricism, with its emphasis on experience or nurture, in the philosophies of John Locke, James and John Stuart Mill, and the later psychologies of J. B. Watson and B. F. Skinner; nativism, with its emphasis on nature and inborn characteristics, in the philosophies of René Descartes and Immanuel Kant and the psychologies of Francis Galton, G. Stanley Hall, and Lewis Terman. Nurture versus nature is still one of the most actively debated and divisive concerns of contemporary psychologists. Indeed, the divisions are so deep that it has been argued that rational discourse between proponents of environmental accounts

and proponents of genetic accounts of the development of intelligence has become out of the question (Crawford, 1979). Such a pessimistic conclusion is unwarranted, for contemporary research using paradigms originally proposed by Francis Galton (Chapter 9) has provided intriguing and powerful evidence as to the contributions of nature and nurture.

LESSONS FROM PSYCHOLOGY'S PAST

Psychology textbooks typically describe psychologists' successes. This history of psychology describes both their successes and their failures. At times eminent psychologists have advocated with great confidence and conviction answers to the questions of psychology that later proved to be wrong. To describe past errors is not to discredit, debunk, or diminish past psychologists, for often they answered other questions correctly; rather, it is to make the history of psychology complete and, most importantly, to alert us to our own fallibility. We must also avoid the tendency to interpret and evaluate past contributions of earlier psychologists according to the standards of the present and to evaluate the contributions of earlier psychologists on the basis of what we know today. Raymond Fancher (1987) labeled such tendencies "Whig history." This book will not be a Whig history of psychology.

In many instances our errors may not be readily apparent to us because they are supported by the shared beliefs and assumptions of a particular era. The leading historian of psychology, Edwin G. Boring (1929/1957), described such influences as coming from the *Zeitgeist*, or spirit of the times. An illustration of the effects of the *Zeitgeist* is seen in the research of Pierre-Paul Broca. His studies of the localization of speech in the human brain (Chapter 3) are still considered distinguished, but Broca was also convinced that women are inferior products of evolution, that their brains are significantly less-developed than those of men, and that this difference in brain size increases with each generation. We now know that his conclusions not only were in error, but were based on inadequate and poorly conducted research. However since they were in harmony with prevailing assumptions and beliefs of the time, they went unchallenged.

A similar example can be found at the beginning of the twentieth century. At that time the consensus among leading psychologists such as Henry Goddard and Lewis Terman (Chapter 11) was that existing psychological tests measured basic intelligence in diverse groups of people, even those from different racial, ethnic, and cultural backgrounds. Today we are aware of the inherent cultural bias in many psychological measures and strive to develop "culture-fair" tests. Unfortunately, in Terman's and Goddard's times the cross-cultural validity of existing tests was not questioned, and results from their application to different ethnic, cultural, national, and racial groups were accepted, largely because such results agreed with prevailing assumptions and beliefs about those groups. The consequences of this misapplication of psychological tests were both unfair and tragic (Chapter 11), yet both Goddard and Terman made other contributions to psychology that are still recognized as important. In the 1920s

Goddard established one of the first school enrichment programs for gifted children, while Terman planned, initiated, supported, and for many years, conducted one of the most respected psychological studies ever done, his long-term study of children of genius.

Failure to question research findings that agree with prevailing political and philosophical ideology represents one of the effects of the *Zeitgeist*. Having seen how the *Zeitgeist* operated in the past, we may be more aware of its influence on contemporary psychology. Of course, the influences of prevailing political, philosophical, and scientific ideology are not always negative. In many instances the spirit of the times, as reflected by the interaction of all the sciences and technology, can stimulate new ideas and creative solutions to problems. One such positive influence can be seen in the models and metaphors chosen to describe behavior and consciousness. Descartes (Chapter 2) described the body as a machine like the machines he saw in the gardens of seventeenth-century France. William Harvey, living during England's industrial revolution, saw the heart as a pump whose task is to drive blood through the body. Wilhelm Wundt and Edward Titchener (Chapters 4 and 5) set out to emulate Newtonian physics and modeled their psychology on that science, not only in what they hoped would be the rigor and elegance of the methods of psychology, but also in what they saw as the goals of the new science. Early in the twentieth century the behaviorists and neobehaviorists (Chapters 12 and 13) adopted a switchboard model of behavior and saw the task of psychology as accounting for connections between stimuli and behavioral responses. Today computer models of behavior and consciousness are in vogue, and psychologists refer to cognitive processes in terms of information processing, storage, input and output, and storage capacity—all terms and concepts drawn from computer science. Twenty years from now this computer model may appear as outmoded as do switchboard models of stimulus and response today. But throughout its history we see that the value of such models does not reside in their accuracy or verisimilitude as descriptions of psychological phenomena but in their capacity to direct psychological research and theorizing.

Another aspect of psychology's past that will be stressed in this history is that earlier psychologists conducted research and speculated about psychological phenomena in ways that have turned out to be remarkably prescient. At times such research and speculation have been forgotten by generations of psychologists, only to be rediscovered later. In the seventeenth century John Locke described a clinical procedure for overcoming excessive fears (Chapter 2) that bears a remarkable resemblance to the systematic desensitization procedures developed by Joseph Wolpe and other contemporary behavior therapists for the treatment of phobias. Hugo Münsterberg (Chapter 5), in the first decade of the twentieth century wrote extensively on the reliability of human memory and particularly of eyewitness testimony. During the 1970s research similar to that of Münsterberg was again conducted (Loftus, 1980). In the 1920s Sidney Pressey invented teaching machines and conducted research on their effectiveness compared with more traditional teaching methods. But his machines were a commercial failure, and his work has been largely forgotten. In the 1950s B. F. Skin-

ner developed his own teaching machine, and that application achieved considerable fame. The contrast between the obscurity of Pressey's pioneering teaching machines and the fame achieved by Skinner is best understood in a historical context (Benjamin, 1988).

Gustav Fechner, the father of psychophysics (Chapter 2) knew in the nineteenth century that the human brain has two cerebral hemispheres linked by a band of fibers, the corpus callosum. He speculated that were it transected, or cut, two separate streams of consciousness would result. The mind would be, in effect, split in two. In recent decades the corpus callosum has been transected in human patients to prevent the spread of epileptic seizures from one side of the brain to the other (Sperry, 1961). Reports describing these "split-brain" subjects have changed dramatically our understanding of the brain and in many ways have confirmed Roger Sperry's speculations. In 1981, nearly 100 years after Fechner's publication, Sperry shared the Nobel Prize for medicine for his pioneering research on the consequences of sectioning the corpus callosum. Such contributions and applications of later psychological findings are indeed impressive, but we must be careful not to read more into the work of earlier psychologists than was actually there. We must understand historical contributions as they actually were rather than stressing how well they anticipated later findings.

HISTORY AS A UNIFYING OR CENTRIPETAL FORCE WITHIN PSYCHOLOGY

The first organizational meeting of the American Psychological Association (APA) was held in 1892 and was attended by twelve charter members (Chapter 9). The APA's first annual meeting was held in December of that year with eighteen members in attendance. In 1893 the association had forty-three members and a budget of \$63. For many years the convention was held on university campuses during the Christmas vacation. But times have changed. On five days of August 1993, the 101st APA convention was held in Toronto, Canada, with meetings scheduled in five downtown hotels and the Toronto Convention Center. Some 12,000 psychologists attended. APA now has 62,000 members, 21,000 affiliates, forty-nine divisions, and a 1993 budget of over \$45 million. The results of an international survey show the total number of psychologists in the world to be well over 500,000.* That number almost doubled from 1980 to 1990 (M. R. Rosenzweig, 1992). Canada, Europe, Africa, India, Russia, and Japan have significant numbers of psychologists.

Psychology is now well-established as a science and profession and psychologists are prominent in many areas of contemporary life. In 1992 a psychologist from Ohio, Ted Strickland, was elected to the United States Congress (De Angelis, 1993, p. 24). In his presidential address to the APA, Raymond Fowler (1990b) described psychology as a "core discipline" that provides a basic core of

*The number of psychologists is about one-twelfth the number of physicians in the world (M. R. Rosenzweig, 1992, p. 718).

knowledge that is used by other disciplines. With their understanding of human behavior, psychologists were seen as being well placed to contribute to the solution of major societal problems. Altman (1987) described such powerful centrifugal forces within psychology as close interactions with other fields, new research methods, and expanded training settings. He characterized such trends as beneficial to psychology, but others are less optimistic. A former president of the APA, Janet Spence, asked "Will the center (of psychology) hold?" Spence answered that it may not and described a "doomsday scenario" in which institutional psychology is decimated (Spence, 1987, p. 1053). Sarason wrote that "there is no longer a center in American psychology" (Sarason, 1988, p. 522). Other psychologists are more hopeful as to the future of their field. Bower (1993) sees as a source of strength rather than weakness the fact that psychologists do so many different things in a variety of settings. It makes psychology an exciting and dynamic discipline.

On many college and university campuses, psychology is a popular, if not the most popular undergraduate major. As a result, in the past twenty years many psychology departments have grown in the number of both their psychology course offerings and the psychologists on their faculties. Scott (1991) has asserted that the future may not be so positive for psychology departments. According to his scenario, by the year 2050 psychology departments as they are now structured will be but a memory: biopsychology will be taught in medical schools, cognitive psychology will be part of cognitive science coalitions, social psychology will be more practice-oriented and will be found in professional schools, and clinical psychology will be a specialty in medical schools (Scott, 1991, p. 976).

One centripetal force unifying contemporary psychology is the common history all psychologists share. That history distinguishes and identifies psychology. Within psychology there is a surprising degree of unanimity as to who the great figures of the past are. Korn, Davis, and Davis (1991) asked twenty-nine leading historians of psychology and ninety-three graduate department of psychology chairpersons to rank the ten most important psychologists of all time. Their rankings were:

Rank	Historians	Chairpersons
1	Wundt	Skinner
2	James	Freud
3	Freud	James
4	Watson	Piaget
5	Pavlov	Hall
6	Ebbinghaus	Wundt
7	Piaget	Rogers
8	Skinner	Watson
9	Binet	Pavlov
10	Fechner	Thorndike

Source: Korn et al., 1991, p. 790