

B. R. HERGENHAHN
TRACY B. HENLEY

An Introduction
to the
History of Psychology



SEVENTH EDITION



An Introduction to the History of Psychology

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B. R. HERGENHAHN

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TRACY B. HENLEY

Texas A & M University - Commerce



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An Introduction to the History of Psychology,
Seventh Edition

B. R. Hergenhahn, Tracy B. Henley

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Cover Image: The cover illustration is a detail of
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Library of Congress Control Number: 2012951915

ISBN-13: 978-1-133-95809-3

ISBN-10: 1-133-95809-5

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Preface

As with the first six editions of *An Introduction to the History of Psychology*, the primary purpose of the seventh edition is to provide students with a comprehensive overview of the history of psychology. It is our belief that to fully understand the concerns of contemporary psychologists one must know the origins of their research questions, the roots of the theories those questions emerge from, and the evolution of the methods used to answer them.

A new edition always includes updating the scholarly citations throughout the book. Likewise, the images and illustrations were upgraded. Without altering the material covered or the narrative flow, the text was “tightened up,” resulting in a reduction of a few pages in most chapters. Specific changes made in this edition include the following:

- *Chapter 1:* The use of Kuhn for understanding the history of psychology is further considered; several theoretical issues that may be difficult for some students are now illustrated with more concrete examples.
- *Chapter 2:* Theory of Mind is introduced to students; the pivotal transition from *mythos* to *logos* in the Ancient world is now referenced throughout the chapter.
- *Chapter 3:* Coverage of Roman life and philosophy is expanded, including coverage of Marcus Aurelius’ *Meditations*; the importance of early Christian scholars such as St. Jerome and St. Augustine is re-framed; the transition from the Roman world to the Middle Age is more fully outlined; the supposed anti-intellectualism of the medieval era is clarified; a brief discussion of later medieval science is now included.
- *Chapter 4:* The importance of printing for timely progress in science and philosophy is further underscored; the mention of Machiavelli and other

renaissance notables is expanded; Bacon's idols are illustrated with psychological examples.

- *Chapter 5:* The mention of the Garcia effect is linked to John Garcia; coverage of Bentham and Utilitarianism is expanded; more examples of French sensationalism are provided; the meaning of “positivism” is clarified for students.
- *Chapter 6:* Differences between empiricism and rationalism are illustrated with the “top down” versus “bottom up” metaphor; Leibniz's anticipation of modern computing is noted; the coverage of monadology is simplified; influences of the Scottish School are added; Kant's ideas are grounded in concrete examples and connected to Gestalt and Gibsonian psychology; Hegel's dialectic and his use of “spirit” are further clarified; Herbart is moved to the chapter's end, and is used to discuss the transition from philosophy to psychology.
- *Chapter 7:* Both Kierkegaard and Nietzsche are more explicitly connected with subsequent developments in psychology.
- *Chapter 8:* A brief consideration of early women in science and academia is added to the introduction of Christine Ladd-Franklin; Sheldon's work on body type is now mentioned; the story of Phineas Gage is added; the origins of early electrophysiology are expanded.
- *Chapter 9:* More details in the Clever Hans story and Husserl's biography are provided; connections with the Würzburgers and Ebbinghaus to modern cognitive psychology are noted; coverage of G. E. Müller is now included.
- *Chapter 10:* The significance of Herbert Spencer is highlighted; more depth is given to characters in Darwin's orbit—such as FitzRoy, Huxley, and Wallace; Mendel's contributions in genetics are noted; the Zeitgeist of Darwin and Galton is better illustrated; Galton's connection to eugenics and modern statistics is expanded; the distinction between idiographic and nomothetic is introduced; the legacy of Spearman, Burt, and Terman is updated; the chapter now ends with a section on modern IQ testing (Wechsler) and psychometric contributions.
- *Chapter 11:* Early interest in psychology and religion is noted; more on the actual students of James and Hall is included; there is a substantial reorganization of the Hall section; several additional women involved in early U.S. psychology are now mentioned; additional coverage of functionalism's use of comparative psychology is provided; the positive contributions of James Mark Baldwin are now covered.
- *Chapter 12:* Additional examples of classical conditioning are provided; coverage of Luria and Vygotsky now concludes the “Russian” section; several aspects of Watson's fascinating biography are added; Rhine's parapsychology and Kuo's contributions are now covered in the McDougall section.
- *Chapter 13:* Positivism is more explicitly linked with psychology; the order of presentation is changed, beginning now with Guthrie (to connect with

Thorndike) and ending with Tolman (to evaluate reinforcement); Hull's anticipation of artificial intelligence and his many influential students are noted; Skinner's time at Indiana as well as a sample of his specific contributions are more fully covered; key concepts from Skinner and Tolman are illustrated with new examples.

- *Chapter 14:* Biographical details are added to Koffka and a connection to Gibson is made; the Gestaltists transition to America is discussed; field theory, Prägnanz, and the connection to phenomenology are clarified; new perceptual examples are provided; the impact of the Gestaltists on modern psychology is covered in greater detail.
- *Chapter 15:* The discussions of witches, hypnotism, and the early biological explanations of abnormality are updated.
- *Chapters 16 and 17:* These chapters are now combined. The influence of Hegel and Nietzsche on Freud is better explained; Freud's use of sexual metaphors is discussed; although the material on Freud is reduced, his substantial influence on psychology is made more clear; Erikson and other developmental matters are expanded; the relationship between Freud and subsequent figures such as Jung and Adler is considered more explicitly; Adler's interest in birth order is noted.
- *Chapter 17:* This chapter now covers Humanistic Psychology. Merleau-Ponty, Sartre, and Camus are now discussed as influences; Jaspers, Frankl, and Boss are discussed as German examples; Buber, Becker, Rotter, and Rychlak are now mentioned; the end matter on comparisons and criticisms is simplified.
- *Chapter 18:* This chapter now covers Psychobiology. Nobel Prize winners are discussed; additional collaborators and students of Lashley are covered; antecedents to Sperry are noted; the heading of behavioral genetics is replaced with a more individualized consideration of ethology, sociobiology, and evolutionary psychology; Chomsky is moved to the cognitive chapter; the end of the chapter now introduces students to more accessible modern neuroscientists.
- *Chapter 19:* This chapter now covers Cognitive Psychology. The start of the chapter remains roughly chronological, although material about people—such as George Miller—is placed together; additional details are added on Bartlett, Piaget, cybernetics, and Bruner; concurrent developments in neuroscience and to behaviorism are noted, and concurrent developments in social psychology are added; the coverage of Neisser and the classic research areas of cognitive psychology is enhanced; the discussion of artificial intelligence is improved and the coverage of connectionism greatly simplified.
- *Chapter 20:* This chapter now covers Contemporary Psychology. Material about the APA and related organizations is updated and streamlined; more on the history of applied psychology is included; Cronbach's extension of Snow's *Two Cultures* is noted; the Wittgenstein section is expanded and Ryle is introduced.

ACKNOWLEDGMENTS

I wish to thank the following reviewers for their helpful comments and suggestions to this edition:

W. Matthew Collins, Nova Southeastern University

Heidi Dempsey, Jacksonville State University

Alfred Finch, The Citadel

Joel Hagaman, University of the Ozarks

Marshall S. Harth, Ramapo College of New Jersey

Karyn Plumm, University of North Dakota

Michelle Ryder, Daniel Webster College

Joseph R. Scotti, West Virginia University

Patrick Stark, Western State College

Anne Marie Tietjen, Western Washington University

Tracy B. Henley



In memory of Baldwin Ross Hergenbahn, 1934–2007



Introduction

The primary purpose of this book is to examine the origins of modern psychology and to show that most of the concerns of today's psychologists are manifestations of themes that have been part of psychology for hundreds or, in some cases, thousands of years. So what sorts of things do contemporary psychologists study?

- Some seek the biological correlates of mental events such as sensation, perception, or ideation.
- Some concentrate on understanding the principles that govern learning and memory.
- Some seek to understand humans by studying nonhuman animals.
- Some study unconscious motivation.
- Some seek to improve industrial-organizational productivity, educational practices, or child-rearing practices by utilizing psychological principles.
- Some attempt to explain human behavior in terms of evolutionary theory.
- Some attempt to account for individual differences among people in such areas as personality, intelligence, and creativity.
- Some are primarily interested in perfecting therapeutic tools that can be used to help individuals with mental disturbances.
- Some focus on the strategies that people use in adjusting to the environment or in problem solving.
- Some study how language develops and how, once developed, it relates to a variety of cultural activities.
- Some explore computer programs as models for understanding human thought processes.
- Still others study how humans change over the course of their lives as a function of maturation and experience.

And these are just a few of the interests that engage contemporary psychologists. Such diverse activities are characterized by an equally rich diversity of methods and theoretical assumptions about human nature. Our aim then will be to see where these methods and theories began, as well as how they evolved into their present form.

PROBLEMS IN WRITING

A HISTORY OF PSYCHOLOGY

Historiography is the study of the proper way to write history. The topic is complex, and there are no final answers to many of the questions it raises. In this section, we offer our thoughts on a few basic questions that must be considered when writing a history.

Where to Start

Literally, *psychology* means the study of the psyche, or mind, and this study is as old as the human species. Ancient peoples, for example, surely studied one another to determine who was reliable and trustworthy, and evidence suggests that they attempted to account for dreams, mental illness, and emotions. Was this psychology?

Or did psychology commence with the first systematic explanations of human cognitive experience, such as those proposed by the early Greeks? Plato and Aristotle, for example, created elaborate theories that attempted to account for such processes as memory, perception, and learning. Is this then the point at which psychology started?

Perhaps psychology came into existence when it emerged as a separate science in the 19th century? This option seems unsatisfactory for two reasons: (1) It ignores the vast philosophical heritage that molded psychology into the type of science that it eventually became; and (2) it omits important aspects of psychology that are outside the realm of science.

Although we will consider very briefly what came before, this book's coverage of the history of psychology starts with the major Greek philosophers

whose explanations of human behavior and thought processes are the ones that Western philosophers and psychologists have been reacting to ever since.

What to Include

Typically, in determining what to include in a history of anything, one traces those people, ideas, and events that led to what is important now. This book, too, takes this approach by looking at the way psychology is today and then attempting to show how it became that way. Stocking (1965) calls such an approach to history **presentism**, as contrasted with what he calls **historicism**—the study of the past for its own sake without attempting to relate the past and present. Copleston (2001) describes historicism as it applies to philosophy:

If one wishes to understand the philosophy of a given epoch, one has to make the attempt to understand the mentality and presuppositions of the men who lived in that epoch, irrespective of whether one shares that mentality and those presuppositions or not. (p. 11)

Presentism attempts to understand the past in terms of contemporary knowledge and standards—which is a practical goal for any textbook. As Lovett (2006) observes, no matter how much historicism is emphasized, presentism cannot be completely avoided:

To try to understand what historical events were like for those who participated in those events is reasonable and desirable, but to conduct historical research—from the selection of projects to the evaluation of sources to the interpretation of findings—without any regard for present knowledge is counterproductive.... If we ever hope to know where progress has happened and where it has not happened, even if we only want to observe change, some level of presentism is necessary; without the present, the very concept of “history” would be meaningless. (p. 33)

Although contemporary psychology provides a guide for deciding what individuals, ideas, and events to include in a history of psychology, there remains the question of how much detail to include. Seldom, if ever, is a single individual solely responsible for an idea or a concept. Rather, individuals are influenced by other individuals, who in turn were influenced by other individuals, and so on. A history of almost anything, then, can be viewed as an unending stream of interrelated events. The “great” individuals are typically those who synthesize existing nebulous ideas into a clear, forceful viewpoint.

The usual solution is to omit large amounts of information, thus making the history selective. Typically, only those individuals who did the most to develop or popularize an idea are covered. For example, Charles Darwin is generally associated with evolutionary theory when, in fact, evolutionary theory existed in one form or another for thousands of years. Darwin documented and reported evidence supporting evolutionary theory in a way that made the theory’s validity hard to ignore. Thus, although Darwin was not the first to formulate evolutionary theory, he did much to substantiate and popularize it, and we therefore associate it with his name. The same is true for Freud and the notion of unconscious motivation.

This book focuses on those individuals who either did the *most* to develop an idea or, for whatever reason, have become closely associated with an idea. Regrettably, this approach does not do justice to many important individuals who could be mentioned or to other individuals who are lost to antiquity or were not loud or lucid enough to demand historical recognition.

Choice of Approach

Once the material to be included in a history of psychology has been chosen, the choice of an organizational approach remains. One approach is to emphasize the influence of such nonpsychological matters as developments in other sciences, political climate, technological advancement, and economic

conditions. Together, these and other factors create a **Zeitgeist**, or a spirit of the times, which many historians consider vital to the full understanding of any historical development. An alternative is to take the **great-person approach** by emphasizing the works of individuals such as Plato, Aristotle, Descartes, Darwin, or Freud. Ralph Waldo Emerson (1841/1981) embraced the great-person approach to history, saying that history “resolves itself very easily into the biography of a few stout and earnest persons” (p. 138). Another possibility is the **historical development approach**, showing how various individuals or events contributed to changes in an idea or concept through the years. For example, one could focus on how the idea of mental illness has changed throughout history.

In his approach to the history of psychology, our discipline’s most noted chronicler, E. G. Boring (1886–1968, who served as President of the American Psychological Association in 1928), stressed the importance of the *Zeitgeist*. Clearly, ideas do not occur in a vacuum. A new idea, to be accepted or even considered, must be compatible with existing ideas. In other words, a new idea will be tolerated only if it arises within an environment that can assimilate it. An idea or viewpoint that arises before people are prepared for it will not be understood well enough to be critically evaluated. The important point here is that validity is not the only criterion by which ideas are judged; psychological and sociological factors are at least as important. New ideas are always judged within the context of existing ideas. If new ideas are close enough to existing ideas, they will at least be understood; whether they are accepted, rejected, or ignored is another matter.

The approach taken in this book is eclectic. That is, this book will show that sometimes the spirit of the times clearly produces great individuals and that sometimes great individuals shape the spirit of their times. At other historical moments, we will see how both great individuals and the general climate of the times evolve to change the meaning of an idea or a concept. In other words, the **eclectic approach** entails using whatever method seems best able to illuminate an aspect of the history of psychology.

WHY STUDY THE HISTORY OF PSYCHOLOGY?

As we noted, ideas are seldom, if ever, born full-blown. Rather, they typically develop over a long period of time. Seeing ideas in their historical perspective allows the student to more fully appreciate the subject matter of modern psychology. However, viewing the problems and questions currently dealt with in psychology as manifestations of centuries-old problems and questions is also humbling and sometimes frustrating. After all, if psychology's problems have been worked on for centuries, should they not be solved by now? Conversely, knowing that our current studies have been shared and contributed to by some of the greatest minds in human history is exciting.

Deeper Understanding

With greater perspective comes deeper understanding. With a knowledge of history, the student need not take on faith the importance of the subject matter of modern psychology. A student with a historical awareness knows where psychology's subject matter came from and why it is important. Just as we gain a greater understanding of a person's current behavior by learning more about that person's past experiences, so do we gain a greater understanding of current psychology by studying its historical origins. Boring (1950) made this point in relation to experimental psychologists:

The experimental psychologist ... needs historical sophistication within his own sphere of expertness. Without such knowledge he sees the present in distorted perspective, he mistakes old facts and old views for new, and he remains unable to evaluate the significance of new movements and methods. In this matter I can hardly state my faith too strongly. A psychological sophistication that contains no component of historical orientation seems to me to be no sophistication at all. (p. ix)

Recognition of Fads and Fashions. While studying the history of psychology, one is often struck by the realization that a viewpoint does not always fade away because it is incorrect; rather, some viewpoints disappear simply because they become unpopular. What is fashionable in psychology varies with the *Zeitgeist*. For example, when psychology first emerged as a science, the emphasis was on “pure” science—that is, on the gaining of knowledge without any concern for its usefulness. Later, when Darwin's theory became popular, psychology shifted its attention to processes that were related to survival or that allowed humans to live more effective lives. Today, one major emphasis in psychology is on cognitive processes, and that emphasis is due, in part, to recent advances in computer technology.

The illustrious personality theorist Gordon W. Allport (1897–1967; American Psychological Association President in 1939) spoke of fashions in psychology:

Our profession progresses in fits and starts, largely under the spur of fashion.... We never seem to solve our problems or exhaust our concepts; we only grow tired of them....

Fashions have their amusing and their serious sides. We can smile at the way bearded problems receive tonsorial transformation.... Modern ethnology excites us, and we are not troubled by the recollection that a century ago John Stuart Mill staked down the term to designate the new science of human character.... Reinforcement appeals to us but not the age-long debate over hedonism.... We avoid the body-mind problem but are in fashion when we talk about “brain models.” Old wine, we find, tastes better from new bottles.

The serious side of the matter enters when we and our students forget that the wine is indeed old. Picking up a recent number of the *Journal of Abnormal and Social Psychology*, I discover that ... 90 percent of

their references [are] to publications of the past ten years.... Is it any wonder that our graduate students reading our journals conclude that literature more than a decade old has no merit and can be safely disregarded? At a recent doctoral examination the candidate was asked what his thesis ... had to do with the body-mind problem. He confessed that he had never heard of the problem. An undergraduate said that all he knew about Thomas Hobbes was that he sank with the *Leviathan* when it hit an iceberg in 1912. (1964, pp. 149–151)

With such examples of how research topics move in and out of vogue in science, we see again that “factuality” is not the only variable determining whether to accept an idea. As Zeitgeists change, so does what appears fashionable in science, and psychology is not immune to this process.

Avoiding Repetition of Mistakes. George Santayana, the friend and colleague of America’s most famous psychologist, William James (1842–1910), once quipped “Those who cannot remember the past are condemned to repeat it.” Such repetition would be bad enough even if it involved only successes, because time and energy would be wasted. It is especially unfortunate, however, if mistakes are repeated. As we will see in this text, psychology has had its share of mistakes and dead ends. One mistake was the embracing of phrenology, the belief that personality characteristics could be understood by analyzing the bumps and depressions on a person’s skull. Yet, as we will see in Chapter 8, it was important for psychology that such an effort was made. Still, it would be disastrous if the errors of the past were repeated because of a lack of historical information.

A Source of Valuable Ideas

By studying history, we may discover ideas that were developed at an earlier time but, for whatever reason, remained dormant. The history of science

offers several examples of an idea taking hold only after being rediscovered long after it had originally been proposed. This fact fits nicely into the Zeitgeist interpretation of history, suggesting that some conditions are better suited for the acceptance of an idea than others. The notions of evolution, unconscious motivation, and conditioned responses had been proposed and re-proposed several times before they were offered in an atmosphere that allowed their critical evaluation. Even Copernicus’s “revolutionary” heliocentric theory had been entertained by the Greeks many centuries before he proposed it. A final example is that of lateralization of brain function. Many believe that the idea that the two cerebral hemispheres function in radically different ways is a new one. However, over 100 years ago, Brown-Séquard’s article “Have We Two Brains or One?” (1890) was one of many written on the topic. In fact, important scientific ideas can be rejected more than once before they are finally appreciated. Feyerabend (1987) said,

The history of science is full of theories which were pronounced dead, then resurrected, then pronounced dead again only to celebrate another triumphant comeback. It makes sense to preserve faulty points of view for possible future use. The history of ideas, methods, and prejudices is an important part of the ongoing practice of science and this practice can change direction in surprising ways. (p. 33)

No doubt, many potentially fruitful ideas in psychology’s history are still waiting to be tried again under new, perhaps more receptive, circumstances.

And so, instead of asking the question, Why study the history of psychology? it might make more sense to ask, Why not? Many people study U.S. history because they are interested in the United States, and younger members of a family often delight in hearing stories about the early days of the family’s elder members. In other words, wanting to know as much as possible about a topic or person of interest, including a

topic's or a person's history, is natural. Psychology is not an exception.

WHAT IS SCIENCE?

At various times in history, influential individuals (such as Galileo and Kant) have claimed that psychology could never be a **science** because of its concern with subjective experience. Many natural scientists still believe this, and some psychologists would not argue with them. How a history of psychology is written will be influenced by whether psychology can be considered a science. To answer the question of whether psychology is a science, however, we must first define science.

Science came into existence as a way of answering questions about nature by examining nature directly rather than by depending on church dogma, past authorities, superstition, or abstract thought processes alone. From science's inception, its ultimate authority has been **empirical observation** (that is, the direct observation of nature), but there is more to science than simply observing nature. To be useful, observations must be organized or categorized in some way, and the ways in which they are similar to or different from other observations must be noted. After noting similarities and differences among observations, many scientists take the additional step of attempting to explain what they have observed. Science, then, is often characterized as having two major components: (1) empirical observation and (2) theory. According to Hull (1943), these two aspects of science can be seen in the earliest efforts of humans to understand their world:

Men are ever engaged in the dual activity of making observations and then seeking explanations of the resulting revelations. All normal men in all times have observed the rising and setting of the sun and the several phases of the moon. The more thoughtful among them have then proceeded to ask the question, "Why? Why does the moon wax and wane? Why does the sun rise and set, and where does it go

when it sets?" Here we have the two essential elements of modern science: The making of observations constitutes the empirical or factual component, and the systematic attempt to explain these facts constitutes the theoretical component. As science has developed, specialization, or division of labor, has occurred; some men have devoted their time mainly to the making of observations, while a smaller number have occupied themselves with the problems of explanation. (p. 1)

A Combination of Rationalism and Empiricism. As we will see in Chapters 5 and 6, in the modern era there are two major approaches to understanding where our knowledge comes from: **rationalism** and **empiricism**. The rationalist believes that the validity or invalidity of certain propositions can best be determined by carefully applying the rules of logic. The empiricist maintains that the source of all knowledge is sensory observation. True knowledge, therefore, can be derived from or validated only by sensory experience. Science draws on both positions.

The rational aspect of science prevents it from simply collecting an endless array of disconnected empirical facts. Because the scientist must somehow make sense out of what he or she observes, theories are formulated. A **scientific theory** has two main functions: (1) It organizes empirical observations, and (2) it acts as a guide for future observations. The latter function of a scientific theory generates **confirmable propositions**. In other words, a theory suggests propositions that are tested experimentally. If the propositions generated by a theory are confirmed through experimentation, the theory gains strength; if the propositions are not confirmed by experimentation, the theory loses strength. If the theory generates too many erroneous propositions, it must be either revised or abandoned. Thus, scientific theories must be testable. That is, they must generate hypotheses that can be validated or invalidated empirically. In science, then, the direct observation of nature is important, but such observation is often guided by theory.