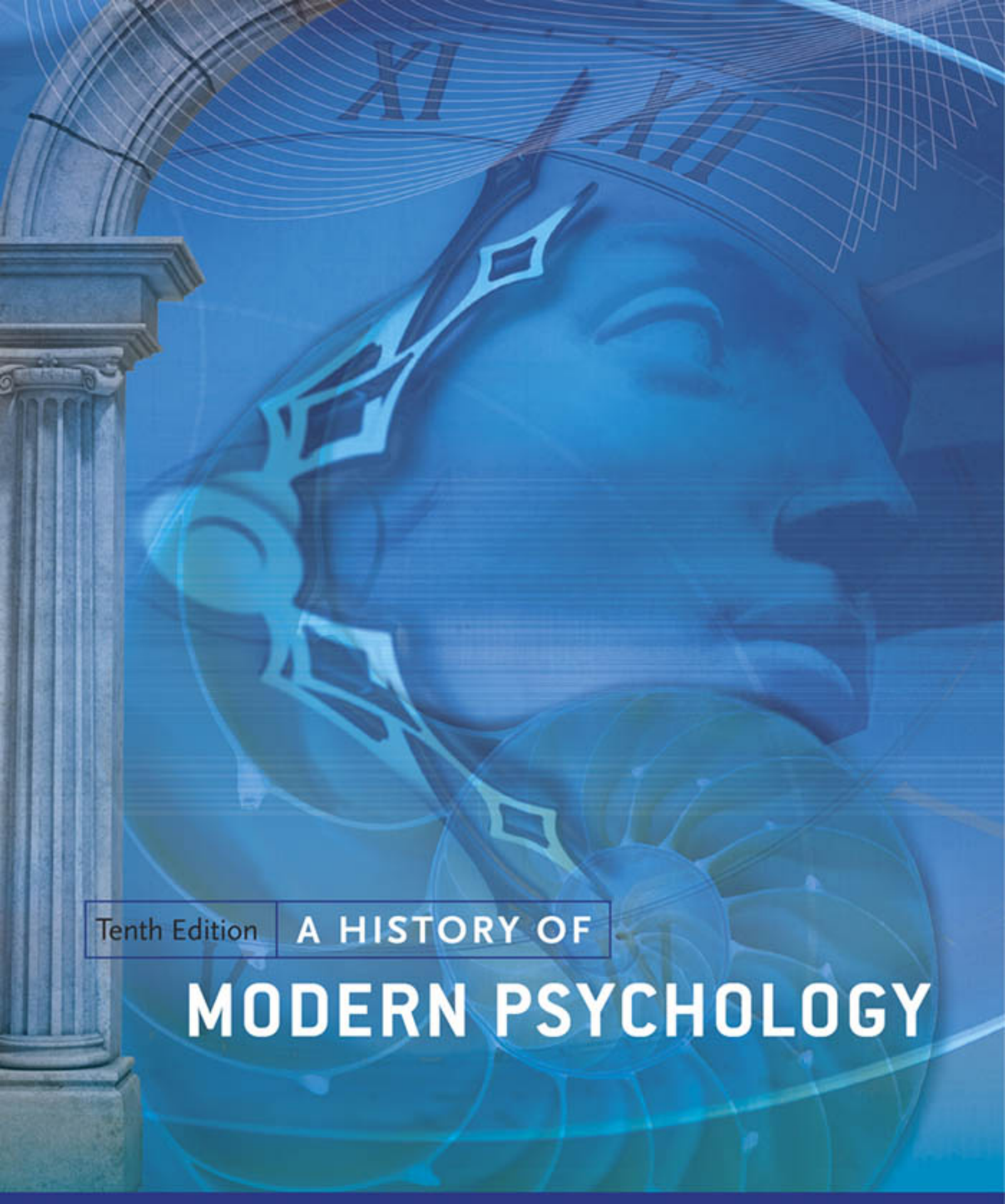

Tenth Edition

A HISTORY OF MODERN PSYCHOLOGY

Duane P. Schultz | Sydney Ellen Schultz

A History of Modern Psychology

TENTH EDITION

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Duane P. Schultz and Sydney Ellen Schultz

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To Russ Nazzaro

who asked the department's newest assistant professor, one day long ago

"How would you like to teach the history of psychology?"

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CHAPTER 1

The Study of the History of Psychology

Did You See the Clown?
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Did You See the Clown?

Suppose you were walking across the campus and you were approached by a person dressed like a clown. He is wearing bright purple and yellow clothing with oversize sleeves decorated with polka dots, red shoes, wild eye make-up, a white wig, a large red nose, and floppy blue shoes—and he is riding a unicycle. We don't know about your campus, but we rarely see clowns around ours. If we did, we probably would notice them, wouldn't you? How could you not notice something as obvious and odd as a clown? That was what Ira Hyman, a psychologist at Western Washington University, wanted to find out. He asked a student to dress up like a clown and ride around the main campus square where hundreds of people were walking to and from classes (Hyman, Boss, Wise, McKenzie & Caggiano, 2009; Parker-Pope, 2009).

When students reached the edge of the quadrangle, trained observers asked 151 of them if they had seen anything unusual, such as a clown. Only half of the students who were walking by themselves said they noticed the clown. More than 70 percent of those walking with another person saw the clown. Only 25 percent of those who were talking on their cell phones were aware of the clown. In other words, 3 of every 4 students talking on their phones were oblivious to the appearance of a clown on a unicycle right in front of them. They had been so distracted by their conversations or their texting that they could not recollect the bizarre sight. Now you might be thinking that this would be a disappointment to a clown who is trying to attract attention, but more importantly, what does it have to do with the history of psychology?

Consider what the results of this experiment tell us about ourselves. They suggest that we may find it difficult, if not impossible, to pay attention to more than one stimulus at a time. In other words, it is really hard to focus on more than one thing.

Does this make you question the value of multitasking, something you most likely do routinely? You probably consider it normal to listen to music while you write a paper, or send a text message while you eat, but are you truly concentrating on either of these activities? Scientists in many fields are investigating the usefulness and effectiveness of multitasking, just as the researchers did in the gorilla study, but their conclusions are not new. Similar results were demonstrated more than 150 years ago, in 1861, by a German psychologist.

That long-ago experiment (described in Chapter 4) also shows us that the study of the past is relevant for the present, but first we must become aware of what was done in the past. History has much to tell us about the world today, and early developments in the field of psychology help us understand the nature of psychology in the twenty-first century. That is one answer to the question you may be asking yourself: namely, "Why am I taking this course?"

Why Study the History of Psychology?

We just noted one example of how understanding the past can be useful. Another example is the fact that this course is being offered at your school at all. It indicates that the

faculty believes it is important to learn about the history of the field. Courses in the history of psychology have been taught since 1911, and many colleges require them for psychology majors.

A survey of 374 colleges, taken in 2005, found that 83 percent provided coursework in the history of psychology (Stoloff et al., 2010). Another survey of 311 psychology departments reported that 93 percent offered such courses (Chamberlin, 2010). Of all the sciences, psychology is unique in this regard. The majority of science departments do not offer studies in the history of their fields, nor do the faculty of those departments consider that history to be vital to their students' development.

The history of psychology is a significant area of study within the discipline of psychology with its own journals, its own division (Division 26) within the American Psychological Association, and its own research center (The Archives of the History of American Psychology) at the University of Akron, Ohio (www3.uakron.edu/ahap/).

The Archives contains the world's largest collection of material on the history of psychology, including more than 50,000 books, 15,000 photographs, 6,000 films, audio and video tapes, hundreds of thousands of letters, manuscripts, lecture notes, testing apparatus, and laboratory equipment. The American Psychological Association (APA), founded in 1892, also maintains historical archives about the organization and its membership. Its Web site, www.apa.org/archives/apa-history.aspx, will direct you to oral histories, photos, biographies, obituaries, and relevant material in the Library of Congress collections.

In determining how all of this academic interest in the history of the field helps you understand psychology today, consider what you already know from taking other psychology courses: namely, that there is no single form, approach, or definition of psychology on which all psychologists agree. You have learned that there is an enormous diversity, even divisiveness and fragmentation, in professional and scientific specialization and in subject matter.

Some psychologists focus on cognitive functions, others deal with unconscious forces, and still others work only with overt behavior or with physiological and biochemical processes. Modern psychology includes many subject areas that seem to have little in common beyond a broad interest in human nature and behavior and an approach that attempts in some general way to be scientific.

The only framework that binds these diverse areas and approaches and gives them a coherent context is their history, the evolution over time of psychology as an independent discipline. Only by exploring psychology's origins and development can we see clearly the nature of psychology today. Knowledge of history brings order to disorder and imposes meaning on what appears to be chaos, putting the past into perspective to explain the present.

Many psychologists practice a similar technique, agreeing that the influence of the past helps shape the present. For example, some clinical psychologists attempt to understand their adult clients by exploring their childhood and examining the forces and events that may cause their patients to behave or think in certain ways. By compiling case histories, clinicians reconstruct the evolution of their clients' lives, and often that process leads to explanations of present behaviors and patterns of thought.

Behavioral psychologists also accept the influence of the past in shaping the present. They believe that behavior is determined by prior conditioning and reinforcing experiences. In other words, the current state of a person can be explained by his or her history—the way we were can tell us something about the way we are now.

So it is with the field of psychology. This book will show you that studying the history of psychology is the most systematic way to integrate the areas and issues of modern psychology. This course will enable you to recognize relationships among ideas, theories, and research efforts and to understand how pieces of the psychology puzzle come together to form a coherent picture. You might consider this course to be a case study,

an exploration of the people, events, and experiences that have made psychology what it is today.

We should add that the history of psychology is a fascinating story on its own, offering drama, tragedy, heroism, and revolution—and its share of sex, drugs, and really weird behavior. Despite false starts, mistakes, and misconceptions, overall there is a clear and continuing evolution that has shaped contemporary psychology and provides us with an explanation for its richness.

The Development of Modern Psychology

Here is another question. For our study of the history of psychology, where do we start? The answer depends on how we define *psychology*. The origins of the field we call psychology can be traced to two different time periods, some 2,000 years apart. Thus, psychology is among the oldest of all scholarly disciplines as well as one of the newest.

First, we can trace ideas and speculations about human nature and behavior back to the fifth century BC, when Plato, Aristotle, and other Greek philosophers were grappling with many of the same issues that concern psychologists today. These ideas include some of the basic topics you covered in your introductory psychology classes: memory, learning, motivation, thought, perception, and abnormal behavior. There seems to be little disagreement among historians of psychology that the "views of our forebears over the past 2,500 years set the framework within which practically all subsequent work has been done" (Mandler, 2007, p. 17). Thus, one possible starting point for a study of the history of psychology would take us back to ancient philosophical writings about problems that later came to be included in the formal discipline we know as psychology.

Conversely, we could choose to view psychology as one of the newer fields of study and begin our coverage approximately 200 years ago, when modern psychology emerged from philosophy and other early scientific approaches to claim its own identity as a formal field of study.

How should we distinguish between modern psychology, which we cover in this book, and its roots—that is, the prior centuries of its intellectual forerunners? The distinction has less to do with the kinds of questions asked about human nature than with the methods used to seek the answers to those questions. It is the approach taken and the techniques employed that distinguish the older discipline of philosophy from modern psychology and mark the emergence of psychology as a separate, primarily scientific, field of study.

Until the last quarter of the nineteenth century, philosophers studied human nature by speculating, intuiting, and generalizing based on their own experience. However, a major transformation occurred when philosophers began to apply the tools and methods already successful in the biological and physical sciences to explore questions about human nature. Only when researchers came to rely on carefully controlled observation and experimentation to study the human mind did psychology begin to attain an identity separate from its philosophical roots.

The new discipline of psychology needed precise and objective ways of dealing with its subject matter. Much of the history of psychology, after its separation from its roots in philosophy, is the story of the continuing development of tools, techniques, and methods to achieve this increased precision and objectivity, refining not only the questions psychologists asked but also the answers they obtained.

If we seek to understand the complex issues that define and divide psychology today, then a more appropriate starting point for the history of the field is the nineteenth century, the time when psychology became an independent discipline with distinctive methods of inquiry and theoretical rationales. Although it is true, as we noted, that philosophers such as Plato and Aristotle concerned themselves with problems that are still of general interest,

they approached these problems in ways vastly different from those of today's psychologists. Those scholars were not *psychologists* in the contemporary usage of the term.

A noted scholar of the history of psychology, Kurt Danziger, refers to the early philosophical approaches to questions of human nature as the "prehistory" of modern psychology. He believes that the "history of psychology is limited to the period when psychology recognizably emerges as a disciplinary subject matter and that it is extremely problematical to talk about psychology as having a history before that" (Danziger, quoted in Brock, 2006, p. 12).

The idea that the methods of the physical and biological sciences could be applied to the study of mental phenomena was inherited from both philosophical thought and physiological investigations of the seventeenth to nineteenth centuries. That exciting era forms the immediate background out of which modern psychology emerged. We shall see that while the nineteenth-century philosophers were clearing the way for an experimental attack on the functioning of the mind, physiologists were independently approaching some of the same problems from a different direction. The nineteenth-century physiologists were making great strides toward understanding the bodily mechanisms underlying mental processes. Their methods of study differed from those of the philosophers, but the eventual union of these disparate disciplines—philosophy and physiology—produced a new field of study that quickly earned its own identity and stature. This new field grew rapidly to become one of the most popular subjects for college students today.

The Data of History: Reconstructing Psychology's Past

Historiography: How We Study History

In this book, *A History of Modern Psychology,* we are dealing with two disciplines, history and psychology, using the methods of history to describe and understand the development of psychology. Because our coverage of the evolution of psychology depends on the methods of history, let us introduce briefly the notion of **historiography**, which refers to the techniques and principles employed in historical research.

Historiography: The principles, methods, and philosophical issues of historical research.

Historians face several problems that psychologists do not share. The data of history—that is, the materials historians use to reconstruct lives, events, and eras—differ markedly from the data of science. The most distinctive feature of scientific data is the way they are gathered. For example, if psychologists want to investigate the circumstances under which people act to help those in distress, or the impact of variable reinforcement schedules on the behavior of laboratory rats, or whether children imitate aggressive behavior they see on television or in videogames, then they will construct situations or establish conditions from which data can be generated.

The psychologists may conduct a laboratory experiment, observe behavior under controlled real-world conditions, take a survey, or calculate the statistical correlation between two variables. In using these methods, scientists have a measure of control over the situations or events they choose to study. In turn, those events can be reconstructed or replicated by other scientists at other times and places. Thus, the data can be verified later by establishing conditions similar to those of the original study and repeating the observations.

In contrast, the data of history cannot be reconstructed or replicated. Each situation occurred at some time in the past, perhaps centuries ago, and historians might not have bothered to record the particulars of the event at the time or even to record the details accurately.

Today's researchers cannot control or reconstruct past events to examine them in the light of present knowledge. If the historical incident itself has been lost to view, then how can historians deal with it? What data can they use to describe it, and how can we possibly know for sure what happened?

Although historians cannot repeat a situation to generate pertinent data, they still have significant information to consider. The data of past events are available to us as fragments, descriptions written by participants or witnesses, letters and diaries, photographs and pieces of laboratory equipment, interviews, and other official accounts. It is from these sources, these data fragments, that historians try to recreate the events and experiences of the past.

This approach is similar to that of archaeologists who work with fragments of past civilizations—such as arrowheads, shards of clay pots, or human bones—and try to describe the characteristics of those civilizations. Some archaeological excavations yield more detailed data fragments than others, allowing for more accurate reconstructions. Similarly, with excavations in history the data fragments may be so great as to leave little doubt about the accuracy of the account. In other instances, however, the data fragments may be lost, distorted, or otherwise compromised.

HISTORY ONLINE

www.cengagebrain.com
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www3.uakron.edu/ahap/
The Archives of the History of American Psychology holds an outstanding collection of documents and artifacts, including the professional papers of prominent psychologists, laboratory equipment, posters, slides, and films.

www.apa.org/about/archives/index.aspx
This link to the historical archives of the APA will help you locate APA-relevant historical material held by the Library of Congress in Washington, D.C. as well as oral histories, photos, biographies, and obituaries.

psychclassics.yorku.ca/ [companion site: psychclassics.asu.edu/]
This amazing site is maintained by psychologist Christopher Green at York University in Toronto, Canada. It includes the complete text of books, book chapters, and articles of importance in the history of psychology. Google *York University History and Theory of Psychology Question & Answer Forum* to post questions about the history of psychology, answer questions that other people have submitted, or browse the site to find out what people are saying. Green offers a blog and a weekly podcast, *This Week in the History of Psychology*, at **yorku.ca/christo/podcasts**.

historyofpsychology.org/
The Web site for the Society for the History of Psychology (Division 26 of the American Psychological Association) offers student resources, online books and journals, and an etail shop selling posters, T-shirts, coffee mugs, baseball caps, and more featuring great men and women from psychology's past.

Lost or Suppressed Data

In some cases, the historical record is incomplete because data have been lost, sometimes deliberately. Consider the case of John B. Watson, the founder of the behaviorism school of thought. Before he died in 1958, at the age of 80, he systematically burned his letters, manuscripts, and research notes, destroying the entire unpublished record of his life and career. Thus, these data are forever lost to history.

Sometimes data have been misplaced. In 2006 more than 500 handwritten pages were discovered in a household cupboard in England. They were determined to be the official minutes of Royal Society meetings for the years 1661 to 1682, recorded by Robert Hooke, one of the most brilliant scientists of his time. The papers revealed early work done with a new scientific tool, the microscope, and detailed the discovery of bacteria and spermatozoa. Also included was Hooke's correspondence with Isaac Newton about the subject of gravity and the movement of the planets (see Gelder, 2006; Sample, 2006).

In 1984, the papers of Hermann Ebbinghaus, who was prominent in the study of learning and memory, were found some 75 years after his death. In 1983, 10 large boxes were uncovered that contained the handwritten diaries of Gustav Fechner, who developed psychophysics. These diaries covered the period from 1828 to 1879, a significant time in the early history of psychology, yet for more than 100 years psychologists were unaware of their existence. Many authors had written books about the work of Ebbinghaus and Fechner without having access to these important collections of personal papers.

Charles Darwin has been the subject of more than 200 biographies. Surely we can assume that the written record of Darwin's life and work would be accurate and complete by now. Yet as recently as 1990, well over 100 years after Darwin's death, large amounts of new material became available, including notebooks and personal letters that were not available for consideration by earlier biographers. Uncovering these new fragments of history means that more pieces of the puzzle can be set in place.

In rare and bizarre instances, the data of history may be stolen and not recovered, if at all, for many years. In 1641, an Italian mathematician stole more than 70 letters written by the French philosopher Rene Descartes. One of the letters was discovered in 2010 in a collection housed at a college in the United States. It was subsequently returned to France (Smith, 2010).

Other data may be hidden deliberately or altered to protect the reputation of the people involved. Sigmund Freud's first biographer, Ernest Jones, intentionally minimized Freud's use of cocaine, commenting in a letter, "I'm afraid that Freud took more cocaine than he should, though I'm not mentioning that [in my biography]" (Isbister, 1985, p. 35). We will see when we discuss Freud (Chapter 13) that recently uncovered data confirm Freud's cocaine use for a longer period than Jones was willing to admit in print.

When the correspondence of the psychoanalyst Carl Jung was published, the letters were selected and edited in such a way as to present a favorable impression of Jung and his work. In addition, it was revealed that Jung's so-called autobiography was written not by him but by a loyal assistant. Jung's words were "altered or deleted to conform to the image preferred by his family and disciples. … Unflattering material was, of course, left out" (Noll, 1997, p. xiii).

In a similar instance, a scholar who catalogued the papers of Wolfgang Köhler, a founder of the school of thought known as Gestalt psychology, was perhaps too devoted an admirer. When he oversaw the selection of materials for publication, he restricted selected information to enhance Köhler's image. The papers had been "carefully selected to present a favorable profile of Köhler." A later historian reviewing the papers confirmed the basic problem with the data of history, "namely, the difficulty of determining the

extent to which a set of papers is a true representation of a person or a slanted one, either favorable or unfavorable, biased by the person who selected the papers to be made public" (Ley, 1990, p. 197).

These instances illustrate the difficulties faced by scholars in assessing the worth of historical materials. Are the documents or other data fragments accurate representations of the person's life and work, or have they been chosen to foster a certain impression, whether positive, negative, or something in between? Another biographer stated the problem as follows: "The more I study human character, the more convinced I become that all records, all reminiscences, are to a greater or lesser degree based on illusions. Whether the distorting lens is that of bias, vanity, sentimentality, or simple inaccuracy, there is no Absolute Truth" (Morris, quoted in Adelman, 1996, p. 28).

Let us offer one more example of suppressed data fragments. The father of psychoanalysis, Sigmund Freud, died in 1939, and in the more than 70 years since his death many of his papers and letters have been published or released to scholars. A large collection of papers is held by the Library of Congress in Washington, D.C. Some of these documents will not be made available for many more years, at the request of the Freud estate. The formal reason for this restriction is to protect the privacy of Freud's patients and their families, and perhaps the reputation of Freud and his family as well.

A noted Freud scholar found considerable variation in the release dates of this material. For example, one letter to Freud from his eldest son is sealed until the year 2032. A letter from one of Freud's mentors will not be released until 2102, some 177 years after the man's death, leaving us to wonder what could be so remarkable about that letter as to require such secrecy for such a long period of time. Psychologists do not know how these archival documents and manuscripts will affect our understanding of Freud and his work. Until these data fragments are available for study, however, our knowledge of one of psychology's pivotal figures remains incomplete and perhaps inaccurate.

Data Distorted in Translation

Another problem with the data of history relates to information that comes to the historian in distorted form. Here the data are available, but they have been altered in some way, perhaps through faulty translation from one language to another or through distortions introduced deliberately or carelessly by a participant or observer recording the relevant events.

We refer to Freud again for examples of the misleading impact of translations. Not many psychologists are sufficiently fluent in the German language to read Freud's original work. Most people rely on a translator's choice of the most appropriate words and phrases, but the translation does not always convey the original author's intent.

Three fundamental concepts in Freud's theory of personality are id, ego, and superego, terms with which you are already familiar. However, these words do not represent Freud's ideas precisely. These words are the Latin equivalents of Freud's German words: id for *Es* (which literally translates as "it"), ego for *Ich* ("I"), and superego for *Über-Ich* ("above-I").

Freud wanted to describe something intimate and personal with his use of *Ich* (I) and to distinguish it from *Es* (it), the latter being something distinct from or foreign to "I." The translator's use of the words *ego* and *id* instead of *I* and *it* turned these personal concepts into "cold technical terms, which arouse no personal associations" (Bettelheim, 1982, p. 53). Thus, the distinction between I and it (ego and id) is not as forceful for us as Freud intended.

Consider Freud's term *free association.* Here the word *association* implies a connection between one idea or thought and another, as though each one acts as a stimulus to

elicit the next one in a chain. This is not what Freud proposed. His term in German was *Einfall,* which does not mean association. Literally, it means an intrusion or an invasion. Freud's idea was not to describe a simple linking of ideas but rather to denote something from the unconscious mind that is uncontrollably intruding into or invading conscious thought. Thus, our historical data—Freud's own words—were misinterpreted in the act of translation. An Italian proverb, *Traditore—Tradutore* (to translate is to betray), makes this point clearly.

Self-Serving Data

The data of history also may be affected by the actions of the participants themselves in recounting pivotal events. People may, consciously or unconsciously, produce biased accounts to protect themselves or enhance their public image. For example, the behavioral psychologist B. F. Skinner described in his autobiography his rigorous self-discipline as a graduate student at Harvard University in the late 1920s:

> *I would rise at six, study until breakfast, go to classes, laboratories, and libraries with no more than fifteen minutes unscheduled during the day, study until exactly nine o'clock at night and go to bed. I saw no movies or plays, seldom went to concerts, had scarcely any dates and read nothing but psychology and physiology* (Skinner, 1967, p. 398).

This description seems a useful data fragment providing insight into Skinner's character. However, 12 years after this material was published and 51 years after the events described, Skinner denied that his graduate school days had been so difficult. He said, "I was recalling a pose rather than the life I actually led" (Skinner, 1979, p. 5).

Although Skinner's school days are of minor importance in the history of psychology, his differing versions illustrate the difficulty that historians face. Which set of data, or which version of the incident, is more accurate? Which characterization comes closer to reality? Which has been influenced by vague or self-serving memories? And how are we to know?

In some cases it is possible to seek corroborating evidence from colleagues or observers. If Skinner's graduate school regimen were significant for historians of psychology, they could try to locate Skinner's classmates or their diaries or letters and compare their recollections of Skinner's Harvard days with his own. One biographer attempting to do so was told by a former classmate that Skinner finished his laboratory work sooner than other graduate students and liked to spend his afternoons playing Ping-Pong (Bjork, 1993).

Thus, some distortions in history can be investigated and the controversies resolved by consulting other sources. This method was applied to Freud's account of certain life events. Freud liked to depict himself as a martyr to his psychoanalytic cause, a visionary scorned, rejected, and vilified by the medical and psychiatric establishment. Freud's first biographer, Ernest Jones, reinforced these claims in his books (Jones, 1953, 1955, 1957).

Data uncovered later revealed a different situation. Freud's work had not been ignored during his lifetime. By the time Freud was middle-aged his ideas were exerting an immense influence on the younger generation of intellectuals. His clinical practice was thriving, and he could be described as a celebrity. Freud himself had clouded the record. The false impression he fostered was perpetuated by several biographers, and for decades our understanding of Freud's influence during his lifetime was inaccurate.

What do these problems with the data of history tell us about our study of the history of psychology? They show primarily that our understanding of history is dynamic. The story constantly changes and grows, and is refined, enhanced, and corrected whenever new data are revealed or reinterpreted. Therefore, history cannot be considered finished

or complete. It is always in progress, a story without an ending. The historian's narrative may only approximate or approach the truth, but it does so more fully with each new finding or new analysis of the data fragments of history.

Contextual Forces in Psychology

A science such as psychology does not develop in a vacuum, subject only to internal influences. Because it is part of the larger culture, psychology also is affected by external forces that shape its nature and direction. An understanding of psychology's history must consider the context in which the discipline evolved, the prevailing ideas in the science and culture of the day—the **Zeitgeist** or intellectual climate of the times—as well as the existing social, economic, and political forces.

Zeitgeist: The intellectual and cultural climate or spirit of the times.

We will see instances throughout this book of how these contextual forces influenced psychology's past and continue to shape its present and future. Let us consider a few examples of contextual forces, including economic opportunity, the world wars, and prejudice and discrimination.

Economic Opportunity

The early years of the twentieth century saw dramatic changes in the nature of psychology in the United States and in the type of work that psychologists were doing. Largely because of economic forces, increasing opportunities emerged for psychologists to apply their knowledge and techniques to solve real-world problems. The primary explanation for this situation was practical. As one psychologist said, "I became an applied psychologist in order to earn a living" (H. Hollingworth, quoted in O'Donnell, 1985, p. 225).

Toward the end of the nineteenth century, the number of psychology laboratories in the United States was rising steadily, but so was the number of psychologists competing for jobs. By 1900, there were three times as many psychologists with doctoral degrees as there were labs to employ them. Fortunately, the number of teaching jobs was increasing as states throughout the Midwest and the West established universities. At most of them, however, psychology, as the newest science, received the smallest amount of financial support. Compared to more established departments such as physics and chemistry, psychology consistently ranked low in annual appropriations. There was little money for research projects, laboratory equipment, and faculty salaries.

Psychologists quickly realized that if their academic departments, budgets, and incomes were ever to improve, they would have to prove to college administrators and state legislators that psychology could be useful in solving social, educational, and industrial problems. So, in time, psychology departments came to be judged on the basis of their practical worth.

At the same time, because of social changes in the American population, psychologists were presented with an exciting opportunity to apply their skills. The influx of immigrants to the United States, along with their high birth rate, made public education a growth industry. Public school enrollments increased 700 percent between 1890 and 1918, and high schools were being built at the rate of one a day. More money was being spent on education than on defense and welfare programs combined.

Many psychologists took advantage of this situation and actively pursued ways to apply their knowledge and research methods to education. This pursuit marked a fundamental shift of emphasis in American psychology, from experimentation in the academic laboratory to the application of psychology to the issues of teaching and learning.

The World Wars

War is another contextual force that helped shape modern psychology by providing job opportunities for psychologists. We will see in Chapter 8 that the experiences of American psychologists in aiding the war effort in World Wars I and II accelerated the growth of applied psychology by extending its influence into such areas as personnel selection, psychological testing, and engineering psychology. This work demonstrated to the psychological community at large, and to the public, how useful psychology could be.

World War II also altered the face and fate of European psychology, particularly in Germany (where experimental psychology began) and in Austria (the birthplace of psychoanalysis). Many prominent researchers and theorists fled the Nazi menace in the 1930s, and most of them settled in the United States. Their forced exile marked the final phase of psychology's relocation from Europe to the United States.

War had a personal impact on the ideas of several major theorists. After witnessing the carnage of World War I, for example, Sigmund Freud proposed aggression as a significant motivating force for the human personality. Erich Fromm, a personality theorist and antiwar activist, attributed his interest in abnormal behavior to his exposure to the fanaticism that swept his native Germany during the war.

Prejudice and Discrimination

Another contextual factor is discrimination by race, religion, and gender. For many years, such prejudice influenced basic issues such as who could become a psychologist and where he or she could find employment.

Discrimination against women Widespread prejudice against women has existed throughout psychology's history. We will see numerous instances in which women were denied admission to graduate school or excluded from faculty positions. Even when women were able to obtain such appointments, they were paid lower salaries than men and encountered barriers to promotion and tenure. For many years, the only academic jobs typically open to women were at women's colleges, although these schools often practiced their own form of prejudice by refusing to hire married women. The reasoning was that a woman was incapable of managing both a husband and a teaching career.

Eleanor Gibson received awards from the APA as well as several honorary doctorates and the National Medal of Science for her work on perceptual development and learning. When Gibson applied to graduate school at Yale University in the 1930s, she was told that the director of the primate laboratory would not permit women in his facility. She also was barred from attending seminars on Freudian psychology. Further, women were not allowed to use the graduate students' library or cafeteria, which were reserved for men only.

Thirty years later, the situation had not changed very much. Sandra Scarr, a developmental psychologist, recalled her 1960 admission interview for graduate school at Harvard University. Gordon Allport, the eminent personality psychologist, told her that Harvard loathed accepting women. He said, "Seventy-five percent of you get married, have kids and never finish your degrees, and the rest of you never amount to anything anyway!" Scarr added:

> *Then, I did get married, and I had a baby in my third year of graduate school, and I was immediately written off. No one would take me seriously as a scientist; no one would do anything for me—write letters, help me find a job. No one believed that a woman with young kids would do anything. So I went and beat on doors and said, "Okay, here I am" until I got hired. Finally, after about 10 years and after I published a lot of articles, my colleagues began to treat me seriously as a psychologist* (Scarr, 1987, p. 26).

Despite such examples of obvious discrimination, psychology's record for equitable treatment of men and women is far more enlightened than that of other scholarly disciplines and professions. By the beginning of the twentieth century, 20 women had earned doctoral degrees in psychology. In the 1906 edition of the reference work *American Men of Science* (note the title), 12 percent of the listed psychologists are women, a high figure considering the barriers to their graduate education. These women were actively encouraged to join the APA.

James McKeen Cattell, a pioneer in the mental testing movement (see Chapter 8), took the lead in urging the acceptance of women in psychology, reminding male colleagues that they ought not "draw a sex line" (unpublished letter quoted in Sokal, 1992, p. 115). At the APA's second annual meeting in 1893, Cattell nominated two women for membership. Largely because of his efforts, the APA was the first scientific society to admit women. Between 1893 and 1921, the APA elected 79 women to membership, 15 percent of the total of new members during that period. By 1938, 20 percent of all psychologists listed in *American Men of Science* were women, and women accounted for almost one-third of the membership of the APA. By 1941, more than 1,000 women had earned graduate degrees in psychology, and one-fourth of all psychologists who held Ph.D.s were women (Capshaw, 1999).

As early as 1905, Mary Whiton Calkins became APA's first woman president; in 2007, Sharon Brehem became APA's eleventh woman president. Other professional societies denied women full participation for many years. Female doctors were not permitted to join the American Medical Association until 1915 (Walsh, 1977). Female lawyers were excluded from the American Bar Association until 1918; the ABA did not elect its first female president until 1995 (Furumoto, 1987; Scarborough, 1992).

Discrimination based on ethnic origin Well into the 1960s, Jewish men and women faced admissions quotas in colleges and graduate schools. A study of discrimination against Jews during that time at three elite universities—Harvard, Yale, and Princeton—found exclusionary practices to be widespread. Admissions officers and college presidents routinely spoke of keeping the "Jewish invasion" under control. In 1922 the director of admissions at Yale University wrote a report entitled "The Jewish Problem." He described Jews as an "alien and unwashed element" (Friend, 2009, p. 272). In the 1920s the policy at Harvard University was to accept no more than 10 to 15 percent of the Jews who applied for admission to each entering class. Jews who were admitted to these elite schools were often segregated, not allowed to join fraternities or prestigious dining and social clubs. Too high a percentage of Jewish students was seen as a threat; "If Jews get in," one researcher was told, "they would ruin Princeton" (Karabel, 2005, p. 75).

Those Jewish students who did gain admission and eventually earn a doctoral degree in psychology still experienced anti-Semitism. The late 1800s saw the founding of Johns Hopkins University in Baltimore, Maryland, and of Clark University in Worcester, Massachusetts, both important institutions in the early history of psychology. It was their policy to exclude Jewish professors from faculty positions. In other colleges, academic jobs for Jewish psychologists were rare. Julian Rotter, a leading personality theorist who received his doctoral degree in 1941, recalled that he "had been warned that Jews simply could not get academic jobs, regardless of their credentials" (Rotter, 1982, p. 346). He began his professional career working at a state mental hospital instead of a university.

When Isadore Krechevsky was unable to find a teaching appointment after he earned his Ph.D., he changed his name to David Krech. Toward the end of his distinguished career in social psychology, he recalled, "I had suffered too many indignities because of the name 'Krechevsky' " (Krech, 1974, p. 242).

David Bakanovsky, a graduate student at the University of Iowa in the 1940s, was told that he would never be able to obtain an academic position. "His progress was blocked by several faculty members who believed that Iowa had graduated too many Jewish students" (Weizmann & Weiss, 2005, p. 317). He changed his name to Bakan and went on to a distinguished career.

Harry Israel was Protestant, but his name made him an obvious target for discrimination. Two of his graduate professors at Stanford University suggested that he change it (Vicedo, 2009). When they later recommended Israel for a faculty position at a large university, the dean of that school replied, "It makes no difference about his qualification. I simply can't take a man with that name" (Leroy & Kimble, 2003, p. 280). Harry Israel adopted his father's middle name and had a highly successful psychology career as Harry Harlow.

Abraham Maslow was urged by his professors at the University of Wisconsin to change his first name to "something less obviously Jewish" so that he would have a better chance of obtaining an academic job (Hoffman, 1996, p. 5). Maslow refused to do so.

After receiving his doctorate from Columbia University in 1931, Daniel Harris was told by Robert Woodworth that he could not become Woodworth's assistant during the next academic year because he was Jewish. Woodworth said Harris "shouldn't be too hopeful in an academic career" (Harris, quoted in Winston, 1996, p. 33).

Writing about one of his graduate students, Harvard psychologist E. G. Boring noted, "He is a Jew, and on this account we have not found it so far easy to place him in a college teaching position in psychology, because of the personal prejudice that exists against Jews in many academic circles and possibly especially in psychology" (quoted in Winston, 1998, pp. 27–28). These and similar incidents drove many Jewish psychologists into clinical psychology, which offered greater job opportunities, rather than the more futile pursuit of an academic career.

In 1945 the editor of the *Journal of Clinical Psychology* proposed that a limit be placed on Jewish applicants to graduate training in that specialty area. He argued that it would be unwise to allow any one group to "take over" the field, and that if too many Jews were allowed to become clinical psychologists it could jeopardize public acceptance of clinical work. To their credit, a majority of the psychology community voiced strong opposition to the proposal (Harris, 2009).

African Americans have faced considerable prejudice from mainstream psychology. In 1940, only four black colleges in the United States offered undergraduate degree programs in psychology. In those instances when blacks were permitted to enroll at predominantly white universities, they confronted a variety of barriers to achievement. In the 1930s and 1940s, many colleges did not even allow black students to live on campus. Francis Sumner, the first black student to earn a doctoral degree in psychology, received what was considered in 1917 to be a highly positive letter of recommendation to graduate school. His advisor described him as "a colored man … relatively free from those qualities of body and mind which many persons of different race find so objectionable" (Sawyer, 2000, p. 128). When Sumner enrolled at Clark University as a graduate student, the administration arranged a separate table in the dining hall for him—and those few students who were willing to eat with him.

The major university providing psychology instruction for black students was Howard University in Washington, D.C. In the 1930s, the school was known as the "Black Harvard" (Phillips, 2000, p. 150). Between 1930 and 1938, only 36 black students were enrolled in graduate psychology programs in universities outside the American South; the majority of these students were at Howard. Between 1920 and 1950, 32 blacks earned doctoral degrees in psychology. From 1920 to 1966, the 10 most prestigious psychology departments in the United States awarded 8 doctorates to blacks, out of a total of more than 3,700 doctoral degrees granted (Guthrie, 1976; Russo & Denmark, 1987). In 1933

Inez Beverly Prosser became the first black woman to earn a Ph.D. in psychology. However, her career was restricted to teaching at small southern, historically black colleges (Benjamin, 2008).

Kenneth Clark, later noted for his research on the effects of racial segregation on children, graduated from Howard University in 1935 with a bachelor of science degree in psychology. He was often refused service at restaurants in the Washington, D.C., area because of his race. He organized a student protest demonstration against segregation in 1934 and was arrested and charged with disorderly conduct. He noted that this was the beginning of his career as an activist on behalf of integration (Phillips, 2000). Clark's application for admission to graduate school at Cornell University was rejected on the basis of race because, he was told, Ph.D. candidates "developed a close interpersonal, social relationship. They worked very closely with the professors and they were sure that I would be uncomfortable, that I would feel awkward in the situation" (Clark, quoted in Nyman, 2010, p. 84). In 1940 Clark became the first African American to earn a doctoral degree from Columbia University and the first to receive a permanent professorship at the City College of New York (Philogene, 2004).

Mamie Phipps Clark also earned a doctoral degree at Columbia but faced both race and sex discrimination. She wrote that "following my graduation it soon became apparent to me that a black female with a Ph.D. in psychology was an unwanted anomaly in New York City in the early 1940s" (M. P. Clark, quoted in Cherry, 2004, p. 22). Although her husband Kenneth Clark was on the faculty at City College, Mamie Phipps Clark was effectively barred from academic jobs. She found work analyzing research data, a minor position she described as "humiliating" for a Ph.D. psychologist (M. P. Clark, quoted in Guthrie, 1990, p. 69).

Working with Kenneth Clark, Mamie Clark opened a storefront center to provide psychological services, including testing, to children. Their efforts prospered and became the noted Northside Center for Child Development. In 1939 and 1940, the Clarks conducted an important research program on racial identity and self-concept in black children. The results of their work were cited in the 1954 U.S. Supreme Court's landmark decision to end racial segregation in public schools. In 1971, Kenneth Clark served as president of the APA, the first African American to be elected to that post.

Despite his considerable accomplishments, Clark considered his life to be a series of "magnificent failures." At the age of 78 he said that he was "more pessimistic now than I was two decades ago" (K. Clark, quoted in Severo, 2005, p. 23).

Earning a Ph.D. was only the first hurdle for blacks; next was finding a suitable job. Few universities hired blacks as faculty members, and most business organizations that employed applied psychologists (a major source of jobs for female psychologists) were effectively closed to African Americans. The historically black colleges were the primary sources of employment, but working conditions rarely afforded opportunities for the kind of scholarly research that led to professional visibility and recognition. In 1936, a professor at a black college described the situation as follows: "Lack of money, overwork, and other unpleasant factors make it practically impossible for him to do anything outstanding in the field of pure scholarship. He cannot buy books on a large scale himself, and he cannot get them at his school libraries, because there are no really adequate libraries in the Negro schools. Probably the worst handicap of all is the lack of a scholarly atmosphere about him. There is no incentive, and, of course, no money for research in most schools" (A. P. Davis, quoted in Guthrie, 1976, p. 123).

Since the 1960s, the APA has made determined efforts to bring greater diversity to the field by expanding opportunities for ethnic minorities to attend graduate schools and to increase their presence among college faculty. Despite these initiatives, minority representation of Ph.D. faculty on campus has not kept pace with the proportion of African

Americans or Hispanic Americans in the general population. For example, according to data issued by the APA in 2007, 66 percent of the current Ph.D. graduate students in psychology were white; 7.4 percent were black, 7.6 percent Hispanic, and 6 percent Asian.

When we consider the effects of prejudice as a contextual factor restricting the access of women and minorities to education and employment opportunities in psychology, it is important to note the following. Yes, the history of psychology as described in this and other textbooks includes the contributions of few female and minority scholars because of the discrimination they faced. However, it is also true that few white men are singled out for attention, relative to their numbers in the field. This is not the result of deliberate discrimination. Rather, it is a function of the way history in any field is written.

> *The history of a discipline such as psychology involves describing major discoveries, illuminating questions of priority, and identifying "great individuals" in the context of a national or international Zeitgeist. Those who carry out the day-to-day work of a discipline are unlikely to find themselves in this spotlight. Psychologists who bring considerable talent to bear behind the scenes—teaching courses, seeing clients, performing experiments, sharing data with colleagues seldom are publicly recognized beyond a small group of peers.* (Pate & Wertheimer, 1993, p. xv)

Thus, history ignores the everyday work of the *majority* of psychologists, regardless of their race, gender, or ethnic origin.

Conceptions of Scientific History

Two ways to view the historical development of scientific psychology are the personalistic approach and the naturalistic approach.

The Personalistic Theory

Personalistic theory: The view that progress and change in scientific history are attributable to the ideas of unique individuals.

The **personalistic theory** of scientific history focuses on the achievements and contributions of specific individuals. According to this viewpoint, progress and change are attributable directly to the will and charisma of unique persons who alone redirected the course of history. A Napoleon or a Hitler or a Darwin was, so this theory goes, the prime mover and shaper of great events. The personalistic conception implies that the events never would have occurred without the appearance of these monumental figures. The theory says, in effect, that the person makes the times.

At first glance, it seems clear that science is the work of the intelligent, creative, and energetic men and women who alone determine its direction. We often define an era by the name of the person whose discoveries, theories, or other contributions mark the period. We talk of physics "after Einstein" or of sculpture "after Michelangelo." It is apparent in science, in the arts, and in popular culture that individuals have produced dramatic—sometimes traumatic—changes that have altered the course of history.

Therefore, the personalistic theory has obvious merit, but is it sufficient by itself to explain entirely the development of a science or a society? No. Often, the contributions of scientists, artists, and scholars were ignored or suppressed during their lifetimes, only to be recognized long afterward. These instances imply that the intellectual, cultural, or spiritual climate of the times can determine whether an idea will be accepted or rejected, praised or scorned. The history of science is also the story of discoveries and insights that were initially rejected. Even the greatest thinkers and inventors have been constrained by the Zeitgeist, by the spirit or climate of the times.

Thus, the acceptance and application of a great person's discovery or idea may be limited by prevailing thought, but an idea too unorthodox for one time and place may be

readily received and supported a generation or a century later. Slow change is often the rule for scientific progress.

The Naturalistic Theory

Naturalistic theory: The view that progress and change in scientific history are attributable to the Zeitgeist, which makes a culture receptive to some ideas but not to others.

We can see, then, that the notion that the person makes the times is not entirely correct. Perhaps, as the **naturalistic theory** of history proposes, the times make the person, or at least make possible the recognition and acceptance of what that person has to say. Unless the Zeitgeist and other contextual forces are receptive to the new work, its proponent may not be heard, or they may be shunned or put to death. Society's response, too, depends on the Zeitgeist.

Consider the example of Charles Darwin. The naturalistic theory suggests that if Darwin had died young, someone else would have developed a theory of evolution in the mid-nineteenth century because the intellectual climate was ready to accept such a way of explaining the origin of the human species. (Indeed, someone else did develop the same theory at the same time, as we see in Chapter 6.)

The inhibiting or delaying effect of the Zeitgeist operates not only at the broad cultural level but also within science itself, where its effects may be more pronounced. The concept of the conditioned response was suggested by the Scottish scientist Robert Whytt in 1763, but no one was interested then. Well over a century later, when researchers were adopting more objective research methods, the Russian physiologist Ivan Pavlov elaborated on Whytt's observations and expanded them into the basis of a new system of psychology. Thus, a discovery often must await its time. One psychologist wisely noted, "There is not much new in this world. What passes for discovery these days tends to be an individual scientist's rediscovery of some well-established phenomenon" (Gazzaniga, 1988, p. 231).

Instances of simultaneous discovery also support the naturalistic conception of scientific history. Similar discoveries have been made by individuals working far apart geographically, often in ignorance of one another's work. In 1900, three investigators unknown to one another coincidentally rediscovered the work of Austrian botanist Gregor Mendel, whose writings on genetics had been largely ignored for 35 years.

Other examples of simultaneous discovery in science and technology include calculus, oxygen, logarithms, sun spots, and the conversion of energy, as well as the invention of color photography and the typewriter, all discovered or promoted at approximately the same time by at least two researchers (Gladwell, 2008; Ogburn & Thomas, 1922).

Nevertheless, the dominant theoretical position in a scientific field may obstruct or prohibit consideration of new viewpoints. A theory may be believed so strongly by the majority of scientists that any investigation of new issues or methods is stifled.

An established theory can determine the ways in which data are organized and analyzed as well as the research results permitted to be published in mainstream scientific journals. Findings that contradict or oppose current thinking may be rejected by a journal's editors, who function as gatekeepers or censors, enforcing conformity of thought by dismissing or trivializing revolutionary ideas or unusual interpretations.

An analysis of articles that appeared in two psychology journals (one published in the United States and the other in Germany) over a 30-year period from the 1890s to 1920 examined the question of how important each article was considered to be at the time of publication and at a later date. Level of importance was measured by the number of citations to the articles in subsequent publications. The results showed clearly that by this measure, the level of scientific importance of the articles depended on whether the "research topics [were] in the focus of scientific attention at the time" (Lange, 2005, p. 209). Issues not in keeping with currently accepted ideas were judged to be less important.

In the 1970s, psychologist John Garcia attempted to publish the results of research that challenged the prevailing stimulus-response (S-R) learning theory. Major journals refused to accept his articles, even though the work was judged to be well done and had received professional recognition. Garcia, a Hispanic American, was elected to the Society of Experimental Psychologists and received the APA's Distinguished Scientific Contribution Award for his research. Eventually his work was published in lesser-known, smaller-circulation journals, but this situation delayed the dissemination of his ideas.

The Zeitgeist within science can have an inhibiting effect on methods of investigation, theoretical formulations, and the definition of the discipline's subject matter. For example, we will describe the tendency in early scientific psychology to focus on consciousness and subjective aspects of human nature. Not until the 1920s could it be said, as some joked, that psychology finally "lost its mind" and then lost consciousness altogether. But a half century later under the impact of a different Zeitgeist, psychology regained consciousness as an acceptable subject for investigation, responding to the changing intellectual climate of the times.

Perhaps we can more readily comprehend this situation if we make an analogy with the evolution of a living species. Both science and species change or adapt in response to the demands of their environment. What happens to a species over time? Very little, as long as its environment remains largely constant. When conditions change, however, the species must respond appropriately or face extinction.

Similarly, a science exists in the context of an environment, its Zeitgeist, to which it must be responsive. The Zeitgeist is not so much physical as it is intellectual, but like the physical environment, it is subject to change. We see evidence of this evolutionary process throughout the history of psychology. When the Zeitgeist favored speculation, meditation, and intuition as paths to truth, psychology also favored those methods. Later, when the intellectual spirit of the times dictated an observational and experimental approach to truth, the methods of psychology moved in that direction. At the beginning of the twentieth century, when one form of psychology was transplanted to a different intellectual soil, it became two distinct species of psychology. (This move occurred when psychologists brought the original German psychology to the United States, where it was modified to become a uniquely American psychology.)

Our emphasis on the Zeitgeist does not negate the importance of the personalistic conception of scientific history—that is, the significant contributions of great men and women—but it does require us to consider their ideas in context. A Charles Darwin or a Sigmund Freud does not single-handedly alter the course of history through sheer force of genius. He or she does so only because the path has already been cleared.

Therefore, in this book we approach the historical development of psychology in terms of both personalistic and naturalistic viewpoints, although the Zeitgeist plays the major role. When scientists propose ideas that are too far out of phase with accepted intellectual and cultural thought, their insights are likely to die in obscurity. Individual creative work is more like a prism that diffuses, elaborates, and magnifies current though, rather than a beacon. Remember, however, that both viewpoints will shed light on the path ahead.

Schools of Thought in the Evolution of Modern Psychology

During the last quarter of the nineteenth century—the initial years of psychology's evolution as a distinct scientific discipline—the direction of the new psychology was influenced by Wilhelm Wundt. A German physiologist, Wundt had definite ideas about the

form this new science (*his* new science) should take. He determined its goals, subject matter, research methods, and topics to be investigated. In this pursuit he was influenced by the spirit of his times, by the current thinking in philosophy and physiology. Nevertheless, it was Wundt in his role as the agent of the Zeitgeist who drew together threads of philosophical and scientific thought. Because he was such a compelling promoter of the inevitable, psychology for some time was shaped by his vision.

Before long, however, controversy arose among the growing numbers of psychologists. New social and scientific ideas were being advanced. Some psychologists, reflecting more modern currents of thought, disagreed with Wundt's version of psychology and proposed their own. By around 1900, several systematic positions and schools of thought coexisted uneasily. We may think of them as differing definitions of the nature of psychology.

The term *school of thought* refers to a group of psychologists who become associated ideologically, and sometimes geographically, with the leader of a movement. Typically the members of a school of thought share a theoretical or systematic orientation and investigate similar problems. The emergence of the various schools of thought and their subsequent decline and replacement by others is a striking characteristic of the history of psychology.

This stage in the development of a science, when it is still divided into schools of thought, has been referred to as "preparadigmatic." (A paradigm—a model or pattern—is an accepted way of thinking within a scientific discipline that provides essential questions and answers.) The notion of paradigms in scientific evolution was advanced by Thomas Kuhn, a historian of science, whose 1970 book, *The Structure of Scientific Revolutions,* has sold more than a million copies.

The more mature or advanced stage in the development of a science is reached when it is no longer characterized by competing schools of thought—that is, when the majority of the scientists agree on theoretical and methodological issues. At that stage, a common paradigm or model defines the entire field.

We can see paradigms at work in the history of physics. The Galilean-Newtonian concept of mechanism was accepted by physicists for 300 years, during which time virtually all physics research was conducted within that framework. Then, when a majority of physicists came to accept Einstein's model—a new way of viewing the subject matter—the approach of Galileo and Newton was replaced. This replacement of one paradigm by another is what Kuhn meant by a scientific revolution.

Psychology has not yet reached the paradigmatic stage. Throughout psychology's history, scientists and practitioners have been seeking, embracing, and rejecting various definitions of the field. No single school or viewpoint has succeeded in unifying these assorted positions. Cognitive psychologist George Miller said that "no standard method or technique integrates the field. Nor does there seem to be any fundamental scientific principle comparable to Newton's laws of motion or Darwin's theory of evolution" (Miller, 1985, p. 42).

More than 15 years later, the state of psychology had changed little. Scholars referred to the history of the field as a "sequence of failed paradigms" (Sternberg & Grigorenko, 2001, p. 1075). Noted historian Ludy Benjamin wrote, "A common lament among psychologists today … is that the field of psychology is far along a path of fragmentation or disintegration [with] a multitude of independent psychologies that soon will be or already are incapable of communicating with one another" (Benjamin, 2001, p. 735).

Another contemporary psychologist described the field "not as a unified discipline but as a collection of psychological sciences" (Dewsbury, 2009, p. 284). Yet another acknowledged "fragmentation, hyperspecialization, and ostensible incommensurability among our theories, areas of research, and methodologies" (Hunt, 2005, p. 358).

Thus, psychology may be more fragmented today than at any time in its history, with each faction clinging to its theoretical and methodological orientation, approaching the study of human nature with different techniques and promoting itself with specialized jargon, journals, and the trappings of a school of thought.

Each of the early schools of thought within psychology was a protest movement, a revolt against the prevailing systematic position. Each school loudly criticized what it saw as the weaknesses of the older system and offered new definitions, concepts, and research strategies to correct the perceived failures. When a new school of thought captured the attention of a segment of the scientific community, those scholars rejected the previous viewpoint. Typically these intellectual conflicts between old and new positions were fought with righteous fervor.

Structuralism: E. B. Titchener's system of psychology, which dealt with conscious experience as dependent on experiencing persons.

Functionalism: A system of psychology concerned with the mind as it is used in an organism's adaptation to its environment.

Behaviorism: Watson's science of behavior, which dealt solely with observable behavioral acts that could be described in objective terms.

Gestalt psychology: A system of psychology that focuses largely on learning and perception, suggesting that combining sensory elements produces new patterns with properties that did not exist in the individual elements.

Psychoanalysis: Sigmund Freud's theory of personality and system of psychotherapy.

Humanistic psychology: A system of psychology that emphasizes the study of conscious experience and the wholeness of human nature.

Sometimes leaders of the older school of thought never became convinced of the worth of the new system. Usually more advanced in age, these psychologists remained too deeply committed to their position, intellectually and emotionally, ever to change. Younger, less committed adherents of the old school were more easily attracted to fresh ideas and became supporters of the new position, leaving the others to cling to their traditions and their work in increasing isolation. The German physicist Max Planck wrote, "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it" (Planck, 1949, p. 33). Charles Darwin wrote, at a young age, "What a good thing it would be if every scientific man was to die when 60 years old, as afterwards he would be sure to oppose all new doctrines" (Darwin, quoted in Boorstin, 1983, p. 468).

Different schools of thought have developed during the course of the history of psychology, each an effective protest against what had gone before. Each new school used its older opponent as a base against which to push and gain momentum. Each position proclaimed what it was not and how it differed from the established theoretical system. As the new system developed and attracted supporters and influence, it inspired opposition, and the whole combative process began anew. What was once a pioneering, aggressive revolution became, with its own success, the established tradition, and inevitably it then succumbed to the vigorous force of the next youthful protest movement. Success destroys vigor. A movement feeds on opposition. When the opposition has been defeated, the passion and ardor of the once-new movement die.

It is in terms of the historical development of the schools of thought that we describe the advance of psychology. Great men and women have made inspiring contributions, but the significance of their work is most easily understood when examined within the context of the ideas that preceded theirs, the ideas on which they built, and the work their contributions eventually inspired.

Plan of the Book

We describe the philosophical and physiological precursors of experimental psychology in Chapters 2 and 3. The psychology of Wilhelm Wundt (Chapter 4) and the school of thought called **structuralism** (Chapter 5) developed from these philosophical and physiological traditions.

Structuralism was followed by **functionalism** (Chapters 6, 7, and 8), **behaviorism** (Chapters 9, 10, and 11), and **Gestalt psychology** (Chapter 12), all of which evolved from or revolted against structuralism. On a roughly parallel course in time, though not in subject matter or methodology, **psychoanalysis** (Chapters 13 and 14) grew out of ideas about the nature of the unconscious and the medical interventions to treat the mentally ill.

Psychoanalysis and behaviorism instigated a number of sub-schools. In the 1950s, **humanistic psychology**, incorporating principles of Gestalt psychology, developed in

Cognitive psychology: A system of psychology that focuses on the process of knowing, on how the mind actively organizes experiences.

reaction to behaviorism and psychoanalysis (Chapter 14). Around 1960, **cognitive psychology** challenged behaviorism to revise psychology's definition once again. The major focus of the cognitive system is a return to the study of conscious processes. That idea, along with contemporary developments such as evolutionary psychology, cognitive neuroscience, and positive psychology, is the subject of Chapter 15.

Discussion Questions

1. What can we learn from studying the history of psychology?
2. Why can psychologists claim that psychology is one of the oldest scholarly disciplines as well as one of the newest? Explain why modern psychology is a product of both nineteenth-century and twentieth-century thought.
3. In what ways do the data of history differ from the data of science? Give examples of how historical data can be distorted.
4. In what ways have contextual forces influenced the development of modern psychology?
5. Describe the obstacles faced by women, Jews, and African Americans in pursuing careers in psychology, especially during the first half of the twentieth century.
6. How does the process of writing history in any field necessarily restrict the number of people whose work can be singled out for attention?
7. Describe the differences between personalistic and naturalistic conceptions of scientific history. Explain which approach is supported by cases of simultaneous discovery.
8. What is the Zeitgeist? How does the Zeitgeist affect the evolution of a science? Compare the growth of a science with the evolution of a living species.
9. What is meant by the term "school of thought"? Has the science of psychology reached the paradigmatic stage of development? Why or why not?
10. Describe the cyclical process by which schools of thought begin, prosper, and then fail.

Recommended Resources

Cadwallader, T. C. (1975). Unique values of archival research. *Journal of the History of the Behavioral Sciences*, 11, 27–33.
Discusses the use of archival materials (unpublished documents, diaries, correspondence, and notebooks) to trace a theory's evolution in reverse, from its published form back through earlier versions, to uncover the impact of a theorist's personal context on his or her ideas.

Chabris, C., & Simons, D. (2010). *The invisible gorilla and other ways our intuitions deceive us*. New York: Crown.
Discusses the illusions and limitations of our attention and memory processes with both historical and contemporary examples.

Dewsbury, D. (2009). Is psychology losing its foundations? *Review of General Psychology*, 13, 281–289.
Examines the growing anti-intellectualism in society, in universities, and within the discipline of psychology and suggests some remedies.

Hilgard, E. R. (Ed.). (1978). *American psychology in historical perspective: Addresses of the presidents of the American Psychological Association, 1892–1977*. Washington, DC: American Psychological Association.
Biographical notes and selections from presidential addresses reflecting the growth of American psychology as a science and profession.

Hyman, I., Boss, S., Wise, B., McKenzie, K., & Caggiano, J. (2009). Did you see the unicycling clown: Blindness while walking and talking on a cell phone. *Applied Cognitive Psychology*, 24, 597–607.
The research on multi-tasking and divided attention that we cited at the beginning of this chapter. Presents a new twist on an old problem.

Karabel, J. (2005). *The chosen: The hidden history of admission and exclusion at Harvard, Yale, and Princeton*. Boston: Houghton Mifflin.
A former college admissions counselor describes cultural factors in discrimination against