

PIONEERS OF PSYCHOLOGY

RAYMOND E. FANCHER | ALEXANDRA RUTHERFORD

A HISTORY

FIFTH EDITION

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Raymond E. Fancher
Alexandra Rutherford



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Again for Joëlle, and
in loving memory
of Seth
And again, for
Graham and Emily

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PREFACE TO THE FIFTH EDITION

BRINGING HISTORY TO LIFE

For over thirty-five years and four previous editions, *Pioneers of Psychology* has brought history to life by connecting psychology's enduring themes and debates with the colorful figures who originated them, and the contexts in which they lived. What better way to understand psychology—the study of mental life and behavior—than by telling the stories behind the ideas and experiences of the pioneers in the field? Our commitment to reconstructing psychology's past through detailed explorations of individual lives in context is one of the features that sets *Pioneers* apart from other textbooks for the history of psychology course.

From our own teaching experience, we know that most students are attracted to psychology because they want to be able to understand people better. It makes sense to us that a biographical, person-based approach is a compelling way to relate psychology's past and recent history. Who were the people whose ideas and inventions have made up the field? What issues did they struggle with, what situations were they in, and how did they shed light on some of the most fundamental questions about being human? We organize our narratives around a careful selection of these questions, as we explore how individual psychologists became intrigued by them, approached them, and ultimately formulated their own ideas and insights.

History of psychology students today are also particularly interested in learning how psychology developed as they experience it now—a collection of loosely interrelated subdisciplines rather than a set of abstract theoretical systems. More than other texts, *Pioneers* moves beyond a focus on the handful of schools or systems of thought that dominated psychological discourse during the early to mid-1900s. It provides individual accounts of the history behind the major current subdisciplines, including abnormal, social, personality, humanistic, developmental, applied, and clinical psychology.

Many of these histories go back surprisingly far. We show, for example, how modern social psychology—with its scientific studies of suggestibility, conformity, and obedience—has direct intellectual roots in the colorful but scientifically suspect exploits of Mesmer and other early hypnotists in the late 1700s. We demonstrate how modern cognitive psychology, with its focus on information processing, has an intellectual history dating back to the revolutionary system

of Indo-Arabic numerals, which, combined with advances in clockmaking technology, led to the first mechanical calculators or “thinking machines.” We illuminate how modern debates about evidence-based clinical practice and other tensions between scientific and applied psychology were foreshadowed by psychologists’ earliest attempts to modify laboratory-based mental tests for practical use. Throughout, we emphasize the ways in which historical knowledge creates a deeper understanding of psychology today.

Another distinctive feature of *Pioneers* is our attention to gender issues and the inclusion of female pioneers. As we discuss more fully in the book’s Introduction, until quite recently women faced many formal—and usually insurmountable—barriers to full participation in intellectual or scientific affairs, and as a result their names seldom appear in standard intellectual histories. Even under highly restrictive conditions, however, talented women often made vital contributions behind the scenes, and where information has been available we have made a point of including it. As the twentieth century unfolded, more women were able to enter the field. This was partly due to the ability of gifted female psychologists in the early 1900s to break down the barriers to their participation, thereby ushering in the era of more equal opportunity that prevails today. We pay attention to these dynamics and incorporate them into our narratives.

These distinctive features of *Pioneers* combine, we believe, to make it a lively, accessible, and thought-provoking text that will spark students’ interest in the foundations of their field and the people who built it. We also note that in an environment where textbook prices are skyrocketing and students are on increasingly tighter budgets, *Pioneers* continues to be an outstanding value at about half the price of market-leading competitors. The ebook, new for this edition, is an even more affordable option.

NEW IN THE FIFTH EDITION

In response to detailed and constructive feedback from dozens of reviewers, we have made many changes for the Fifth Edition. Readers will find greater organizational consistency across chapters, more images in each chapter, and more accessible language. We have minimized idiomatic phrases that may not be familiar, since the students who use *Pioneers* are located all over the world. Our expanded coverage of gender issues includes more than thirty female pioneers whose scientific and applied contributions have helped shaped the field.

Pioneers has a new Introduction, which outlines the value of studying psychology’s history and explains the rationale for our own approach: presenting psychological ideas in the context of the lives and times of the pioneers who introduced them. We also cover some of the major issues historians face when deciding how

to write history, such as when to start, who and what to include, and how to present it. These are the historiographic issues that underlie all historical writing, and in the Introduction we help students become aware of how these decisions influence the kinds of narratives that result.

Chapter 1 is completely new. We recognize that many teachers begin their courses with the ancient Greek philosophers, and several remarked that they would like *Pioneers* to start its full coverage with them. At first we thought such a chapter might be difficult to fill out with the kind of personal biographical information we like to draw upon, because such material is very scarce for the major ancient philosophers. We found, however, that when combined with the vibrancy and interplay of their surviving writings, the few known biographical facts about them still provided the basis for a compelling narrative. Our newly featured pioneers in this chapter are the pedagogically linked trio of Socrates, Plato, and Aristotle, the atomic theorist Democritus, and a group of brilliant Islamic scholars who kept the classical traditions alive during the period when western Europe was neglecting or destroying them.

At the other end of the historical time scale, clinical psychology has become by far the largest specialty area among present-day psychologists, with a distinctive history of its own that tends to be overlooked in textbooks despite its great interest to students. We remedy this omission in our new last chapter on clinical psychology. With an abundance of biographical riches from which to choose, we decided on several important psychologists who actively confronted the tensions in the contrast between clinical practices and the desire to remain scientific. New key pioneers here include Molly Harrower, David Shakow, Aaron Beck, and Paul Meehl.

Throughout the book we have updated the previous material in response to recent historical research, and added either brand new or significantly expanded coverage of several pioneers. Many of the additions were inspired by our desire to highlight the emergence of new psychological subdisciplines over the past several decades. Among those receiving particularly significant new or expanded coverage are Adler, Jung, Wechsler, Vygotsky, Shannon, Miller, Chomsky, Marston, Scott, Mayo, Rogers, and Rorschach.

ENHANCED SUPPORT MATERIAL

We were ably aided by Jacy Young, a historian of psychology and teacher of the course, in the enhancement and expansion of the Support Package for this edition. For instructors, there is a greatly expanded test bank that now includes more than 1,300 multiple choice and matching items, as well as representative short answer questions with sample answers. We also include assignments that build

on chapter content by connecting it to material in the highly regarded open-access digital resources *Classics in the History of Psychology* (<http://psychclassics.yorku.ca/>) and *Psychology's Feminist Voices* (<http://www.feministvoices.com/>) as well as other online materials. For the classroom there is a complete set of Lecture PowerPoint slides with lecture notes and key pioneers and terms. There is also a set of Art PowerPoint slides with all the photographs and illustrations in the book (which are also offered as Art JPEGs). For students, the reasonably priced ebook version of the text works on all computers and mobile devices, and includes intuitive highlighting, note taking, and bookmarking features.

CHAPTER OVERVIEW

We have made each chapter comprehensible as an independent entity, so teachers can assign chapters selectively or in a different order. We also believe, however, that one great lesson from studying the broad history of psychological thought from classical times to the present is that old ideas and attitudes continually recur in new forms. Early pioneers may have lacked access to the resources and technologies of later psychologists, but many of the fundamental questions that intrigued them continue to spark interest today. While the issues may be phrased differently, they reflect enduring preoccupations with some of the most central concerns about human experience, behavior, and life. We have noted these recurrences when they come up, often with cross references back to the appropriate earlier chapters.

Here are brief descriptions of the chapters in the Fifth Edition:

- *Introduction: Studying the History of Psychology.* This new opening discusses the value of studying history and outlines central historiographic issues, including the distinction between historicism and presentism. We provide an overview of the development of history of psychology as an academic specialty area, and describe our particular historiographic approach.
- *Chapter 1. Foundational Ideas from Antiquity.* This new chapter explores the interlocked philosophical careers of Socrates, Plato, and Aristotle, accompanied by an account of the then-unpopular atomic theory proposed by their contemporary Democritus. It concludes with accounts of three brilliant Islamic scholars who preserved and kept alive the foundations of classical philosophy at the time of the Dark Age, when they were being destroyed and condemned in Christian Europe.
- *Chapter 2. Pioneering Philosophers of Mind: Descartes, Locke, and Leibniz.* This is a consolidation of the previous edition's Chapter 1

(on Descartes) and Chapter 2 (on Locke and Leibniz). We show how Descartes adapted and “mechanized” the Aristotelian conception of the vegetative and sensitive psyches while arriving at his dualistic conception of body and mind as two separate “substances” requiring two differing modes of analysis. We then show how his successors Locke and Leibniz reacted to and developed contrasting aspects of Descartes’s philosophy: Locke with an emphasis on empiricism and the associationistic basis of knowledge, and Leibniz with his conception of an independent and creative mind that imposes its own categories and structures on human experience.

- *Chapter 3. Physiologists of Mind: Brain Scientists from Gall to Penfield.* This chapter relates how a series of individuals firmly established the brain as the bodily organ most central to psychology, beginning with Gall and his colorful but largely misguided theory of phrenology and concluding with Penfield and his electrical stimulations of the conscious human brain. We highlight throughout the recurring issue of the extent to which the brain functions as a unified whole, versus as a collection of separately localized and independent organs. The chapter brings us to the dawn of the modern era of cognitive neuroscience.
- *Chapter 4. The Sensing and Perceiving Mind: From Kant through the Gestalt Psychologists.* We trace developments in the scientific study of sensation and perception, showing first how Kant emphasized the centrality of the human mind in transforming raw energies from the external world into meaningful perceptions. We then discuss Helmholtz’s systematic studies of vision, which revealed how physical stimulation from light waves gets ultimately transformed into meaningful perceptions of distinct objects. Fechner, with psychophysics, subsequently discovered mathematically describable relationships between the intensities of physical stimuli as measured objectively and experienced subjectively. The Gestalt psychologists later showed how the mind imposes principles of organization on the arrays of stimulation it encounters.
- *Chapter 5. Wundt and the Establishment of Experimental Psychology.* Building on the research of Helmholtz and Fechner and some reaction time studies of his own, Wundt argued that enough important aspects of psychological functioning could be studied in laboratory settings to become the basis of a new and independent discipline of experimental psychology. Echoing Descartes, however, Wundt believed that the highest mental functions could *not* be studied experimentally, a view that was challenged in different ways by Titchener with his structuralism,

Külpe with his studies of imageless thought and set, and Ebbinghaus's invention of nonsense syllables to study memory.

- *Chapter 6. The Evolving Mind: Darwin and His Psychological Legacy.* This chapter tells how Darwin revolutionized the life sciences by proposing natural selection as the primary mechanism for evolutionary development. By emphasizing the adaptive properties of inherited physical variables, Darwin's theory encouraged psychologists to place greater emphasis than before on the functional aspects of psychological characteristics, and on the importance of hereditary individual differences. Animal studies assumed new relevance because of the assumed interrelatedness of all living species. We conclude with accounts of social Darwinism and the more recent emergence of the contemporary subdiscipline of evolutionary psychology.
- *Chapter 7. Measuring the Mind: Galton and Individual Differences.* Galton applied his cousin Darwin's emphasis on individual differences to *intellectual* characteristics, while promoting the notions of hereditary genius and eugenics. As originator of the modern nature-nurture debate, Galton laid controversial foundations for the fields of intelligence testing and behavior genetics, including the idea of studying twins. The chapter concludes by describing the most important twin studies conducted over the century since Galton's death.
- *Chapter 8. American Pioneers: James, Hall, Calkins, and Thorndike.* In America, James and his students adopted a Darwinian outlook while promoting a pragmatic, functional, and pluralistic approach to psychology. James's magnetic personality and groundbreaking textbook made psychology a popular academic subject that inspired three important students. Hall went on to become the most important institution builder in American psychology, while also establishing foundations for child psychology; Thorndike pioneered the study of learning in animals and became a leader of the functionalist movement; and Calkins overcame tremendous obstacles as a woman while becoming a leading experimental psychologist and founder of the influential psychology department and laboratory at Wellesley College for women.
- *Chapter 9. Psychology as the Science of Behavior: Pavlov, Watson, and Skinner.* The behaviorist movement arose largely through the efforts of Pavlov, Watson, and Skinner, who promoted the possibilities of a non-mentalistic psychology in which observable behavior replaced the mind as its basic subject. Particularly influential in America, behaviorism provided practical prescriptions for human conduct, from raising children

to designing community life. Behaviorism was not only a theoretical commitment but a guide for the prediction and control of behavior.

- *Chapter 10. Social Influence and Social Psychology: From Mesmer to Milgram and Beyond.* Social psychology had colorful roots in the experiences of Mesmer and other early hypnotists who demonstrated the power of suggestibility and group contagion. These topics were later pursued by increasingly scientific investigators of social influence processes, including Charcot, Binet, and eventually Floyd Allport, whose textbook formally launched social psychology as a new subdiscipline. The chapter goes on to describe the origins of Asch's conformity studies, Milgram's controversial studies of obedience, Festinger's cognitive dissonance theory, and more recent studies of the constructed nature of memory.
- *Chapter 11. Mind in Conflict: Freudian Psychoanalysis and Its Successors.* This chapter tells the story of how Freud developed psychoanalysis, beginning with his discovery of free association as a technique for treating hysteria patients. This therapy, aimed at uncovering unconscious wishes and conflicts, evolved into a general theory of the psyche, which eventually became the centerpiece of an international movement and attracted important followers and dissidents, including Adler and Jung. Although first greeted with hostility by academic psychologists, psychoanalytic ideas gradually aroused their scientific interest and contributed strongly to the development of the subdisciplines of abnormal and personality psychology.
- *Chapter 12. Psychology Gets "Personality": Allport, Maslow, and the Broadening Field.* This chapter opens with Gordon Allport's promotion of personality as a psychological subject, and on his conception of nomothetic and idiographic research methods as contrasting but equally valuable approaches to it. The former led to the factor analysis of personality traits and the Big Five model of personality structure; the latter to psychologically informed case studies and psychobiographies. The second half of the chapter tells how Maslow, with broad training in personality and abnormal psychology, established the field of humanistic psychology as what he saw as a "third force" to compete against the then-dominant doctrines of behaviorism and psychoanalysis.
- *Chapter 13. The Developing Mind: Binet, Piaget, and the Study of Intelligence.* The rise of modern intelligence testing and developmental psychology is documented via the lives and works of Binet and Piaget, both of whom were originally inspired by home observations of their own children. Binet and Simon's testing method, intended as means of diagnosing

mental deficits, became the foundation of a vast intelligence testing industry dominated by Spearman, Goddard, Terman, and Wechsler. Impressed by qualitative differences in the ways older and younger children solve problems, Piaget formulated genetic epistemology as a theory, with four distinctive stages of cognitive development. Piaget's contemporary Vygotsky emphasized the importance of sociocultural factors in enhancing or hindering the pace of cognitive development.

- *Chapter 14. Minds, Machines, and Cognitive Psychology.* This chapter uses the history of mechanical calculators and early computing machines as a springboard for introducing the concepts of artificial intelligence and information processing, which became central in the mid-twentieth-century rise of cognitive psychology. Highlights include Babbage and Lovelace's conception of a universal computer, Turing's proposed test for computer intelligence, Shannon's introduction of the bit as the fundamental unit of information theory, and Miller's adoption of that theory as essential to cognitive psychology. Chomsky, Bruner, and Neisser all collaborated with Miller in laying the formal foundations for the new subdiscipline.
- *Chapter 15. Applying Psychology: From the Witness Stand to the Workplace.* This chapter traces the emergence of applied psychology in the work of Münsterberg and Gilbreth, who were both influenced by Taylor and scientific management. This material is complemented with new coverage of Scott on the psychology of advertising, Marston on polygraphic lie detection, and Mayo and the famous but often misrepresented Hawthorne studies of industrial efficiency. Hollingworth's early contributions to the professionalization of clinical psychology rounds out the chapter. Throughout, the tensions between academic and applied interests are noted.
- *Chapter 16. The Art and Science of Clinical Psychology.* This new chapter traces the development of clinical psychology after World War II. We focus on a number of psychologists who confronted the tensions between the art of clinical practice and the desire to be scientific, especially by developing valid assessment tools and evaluating the effectiveness of psychotherapy. These include Harrower, an experimentalist who turned to clinical practice; Shakow, a researcher who designed the scientist-practitioner model of clinical training; Meehl, a psychologist who compared clinical to statistical prediction; and Beck, who developed cognitive therapy, an evidence-based practice that is now one of the most widely used approaches for treating psychological problems.

ACKNOWLEDGMENTS

From its inception, *Pioneers of Psychology* has benefitted enormously from the constructive advice and criticism of large numbers of people. We repeat our thanks here to those who helped so much with the first three editions (some of whom have regrettably passed on): Neil Agnew, Howard Baker, Michael Blacha, Arthur Blumenthal, Adrian Brock, Darryl Bruce, Kurt Danziger, Maureen Dennis, Norman Endler, Stanley Finger, Catherine Gildiner, Melvin Gravitz, Christopher Green, Scott Greer, Norman Guttman, Walter Heinrichs, Robert Hoffman, John Hogan, Peter Kaiser, John Kennedy, Bruno Kohn, Alex Kozulin, Gregory McGuire, Paul McReynolds, John Meacham, Mark Micale, Hiroshi Ono, Roger Thomas, Ryan Tweney, Michael Wertheimer, Malcolm Westcott, George Windholz, and Theta Wolf. On the editorial side, Norton's Donald Lamm and Donald Fusting provided invaluable advice and encouragement throughout the preparation of the first three editions.

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Conrad, Lee William Daffin, Jr., Maarten Derksen, Ingrid Farreras, Michael Ford, David Funder, Leonard George, Christopher D. Green, Lisa D. Hager, Harry Heft, Thomas E. Heinzen, Gretchen Hendrickson, Darryl Hill, August John Hoffman, Robert Hoffman, Thomas J. Johnson, Russ Kosits, John W. Kulig, Bob Lockie, Daniel S. McConnell, Spencer A. McWilliams, Jack Martin, Jean Mercer, Jay L. Michaels, Ian Nicholson, Jean Nyland, Jack A. Palmer, Jennifer Perry, Karyn Plumm, Henry L. Roediger III, Rachael Rosner, Dale Stout, Elizabeth Stroot, Henry Schlinger, Douglas E. Trimble, Ryan D. Tweney, Lori R. Van Wallendael, David Weissenburger, Larry White, Andrew S. Winston, and one other very helpful reviewer who asked to remain anonymous. We also thank Serge Nicolas and Alexandre Klein for vital help in obtaining figures and permission to reproduce them from the Alfred Binet Archive.

For various reasons, including our own lack of requisite expertise, we were unable to take full advantage of some of the reviewer suggestions, but they were extremely helpful and our book is immensely stronger for their collective input. Any errors, of course, remain our responsibility alone.

Once again it has been a pleasure and a privilege to work with Norton's editorial and production teams. Our general editor Ken Barton has devoted himself to ensuring that *Pioneers* speaks to the broadest possible audience and has been thoroughly reviewed, improved, and expanded. He has been ably assisted in this process by assistant editor Scott Sugarman and editorial assistant Eve Sanoussi. Our developmental editor Betsy Dileria provided meticulous and insightful reviews and edits of the entire manuscript to improve its flow, style, communication, accessibility, and organization. Our book is much the better for her efforts. Ted Szczepanski and Elyse Rieder helped enormously in finding and securing permissions for our new photographs. On the production side, Caitlin Moran, Steve Cestaro, Ben Reynolds, and designer Anna Reich all collaborated in putting together what we believe is a very handsome and functional finished volume. We also sincerely thank the psychology media team of Patrick Shiner, Stefani Wallace, and Alex Trivilino, as well as the marketing manager, Lauren Winkler. Last, but far from least, we thank our spouses Helena and Wade for their constant love and support as we worked our way through the revisions.

TIME LINE

KEY PIONEERS

Socrates
(470–399 B.C.)



Plato
(424–347 B.C.)

Aristotle
(384–322 B.C.)



Lucretius
(ca. 95–55 B.C.)

Al-Kindi
(ca. 800–871)

Alhazen
(ca. 965–1040)

Avicenna
(ca. 980–1037)



KEY EVENTS

ca.
600

B.C.

Greek philosophy begins in Ionia (Chapter 1).

ca.
500

B.C.

Athenian democracy is established (Chapter 1).

ca.
389–
361

B.C.

Plato writes the Socratic dialogues (Chapter 1).

ca.
350

B.C.

Aristotle writes *On the Psyche* (Chapter 1).

ca.
55

B.C.

Lucretius writes *De Rerum Natura* (Chapter 1).

ca.
830

Al-Kindi introduces Indo-Arabic numerals and algebra (Chapter 1).

ca.
1021

Alhazen writes *Book of Optics* (Chapter 1).

1027

Avicenna comments on Aristotle in *Book of the Cure* (Chapter 1).

1088

The first European university is founded in Bologna (Chapter 1).

St. Thomas Aquinas
(1225-1274)

1255-1274 Aquinas integrates Aristotle into Christian theology (Chapter 1).

1417 *De Rerum Natura* rediscovered and introduced into Europe (Chapter 1).

René Descartes
(1596-1650)



Princess Elizabeth of Bohemia (1618-1680)

Blaise Pascal
(1623-1662)

1619 Descartes has a dream and an inspiration for his method (Chapter 2).

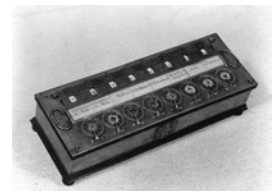
John Locke
(1632-1704)



1633 Descartes writes but suppresses publication of *Le Monde* (Chapter 2).

1637 Descartes publishes *Discourse on Method* (Chapter 2).

1639 Pascal begins building his mechanical calculator, the Pascaline (Chapter 14).








1642 Descartes begins correspondence with Elizabeth of Bohemia, resulting in *Passions of the Soul* in 1649 (Chapter 2).

Gottfried Wilhelm Leibniz
(1646-1716)



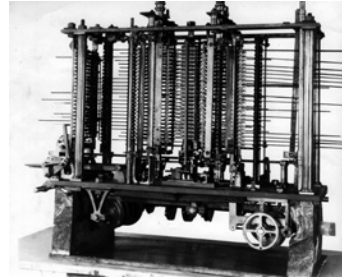
1671 Locke starts writing *An Essay Concerning Human Understanding* (Chapter 2).

1673 Leibniz exhibits his mechanical calculator in London (Chapter 2).

		1690	Locke publishes <i>An Essay Concerning Human Understanding</i> (Chapter 2).
		1704	Leibniz writes but withholds publication of <i>New Essays on Human Understanding</i> (Chapter 2).
	David Hume (1711-1776)		
	Immanuel Kant (1724-1804)		
Franz Anton Mesmer (1734-1815)		1737	Hume publishes a skeptical analysis of the notion of causality (Chapter 4).
Franz Josef Gall (1758-1828)			
		1775	Mesmer introduces animal magnetism at Gassner's exorcism trial (Chapter 10).
		1781	Kant writes about the innate intuitions of time and space perception (Chapter 4).
Charles Babbage (1792-1871)			
		1784	Puységur discovers the mesmeric perfect crisis state (Chapter 10).
Pierre Flourens (1794-1867)		1794-1796	Erasmus Darwin publishes a speculative theory of evolution (Chapter 6).
		1802	Paley publishes the argument from design in contrast to evolution (Chapter 6).
Charles Robert Darwin (1809-1882)		1809	Lamarck publishes the theory of evolution via inheritance of acquired characteristics (Chapter 6).
Ada Lovelace (1815-1852)			

1843

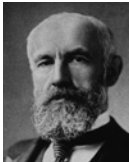
Lovelace publishes her notes on Babbage's analytical engine (Chapter 14).



1843

Braid describes hypnotic effects in a mainstream scientific journal (Chapter 10).

G. Stanley Hall
(1844-1924)



Christine Ladd-Franklin
(1847-1930)



Ivan Petrovich Pavlov
(1849-1936)



1850

Helmholtz measures the speed of the nerve impulse (Chapter 4).

Hermann Ebbinghaus
(1850-1909)



Frederick Winslow Taylor
(1856-1915)

Sigmund Freud
(1856-1939)



Alfred Binet
(1857–1911)



- 1859 Darwin publishes *On the Origin of Species* (Chapter 6).
- 1860 Fechner publishes *Elements of Psychophysics* (Chapter 5).
- 1860 Helmholtz promotes the trichromatic theory of color vision (Chapter 4).
- 1861 Broca reports the case of Tan, confirming the localization of speech in the brain's left frontal cortex (Chapter 3).
- 1861 Wundt conducts his thought meter experiment (Chapter 5).

Oswald Külpe
(1862–1915)



**Mary Whiton
Calkins**
(1863–1930)



Hugo Münsterberg
(1863–1916)



**Edward Bradford
Titchener**
(1867–1927)



**Eleanor Acheson
Gamble**
(1868–1933)



Walter Dill Scott
(1869–1955)



1869

Galton publishes *Hereditary Genius* (Chapter 7).

Alfred Adler
(1870–1937)



Margaret Floy Washburn
(1871–1939)

1870

James experiences a personal crisis, resolved by believing in free will (Chapter 8).

Carl Jung
(1875–1961)



1871

Darwin publishes *The Descent of Man* (Chapter 6).

Edward Lee Thorndike
(1874–1947)



Lillian Moller Gilbreth
(1878–1972)

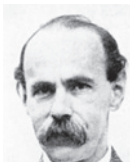


John B. Watson
(1878–1958)

1879

Wundt publishes the first experimental psychology textbook, *The Principles of Physiological Psychology* (Chapter 5).



Max Wertheimer
(1880–1943)







Elton Mayo
(1880–1949)




Melanie Klein (1882-1960)	1882	Charcot introduces the theory of <i>grand hypnotisme</i> (Chapter 10).
Karen Horney (1885-1952)	1884	Galton establishes his Anthropometric Laboratory and prototype intelligence tests (Chapter 7).
	1885	Ebbinghaus publishes <i>On Memory</i> (Chapter 5).
Leta Stetter Hollingworth (1886-1939)		
Floyd H. Allport (1890-1970)	1888	Galton invents correlation coefficients (Chapter 7).
Edna Heidbreder (1890-1985)		
Karl Spencer Lashley (1890-1959)		
Wilder Penfield (1891-1976)	1890	James publishes <i>The Principles of Psychology</i> (Chapter 8).
	1892	Hall establishes the American Psychological Association (Chapter 8).
William Moulton Marston (1893-1947)	1895	Freud and Breuer publish <i>Studies on Hysteria</i> (Chapter 11).

<p>Francis Cecil Sumner (1895–1954)</p> <p>Jean Piaget (1896–1980)</p> <p>Lev Vygotsky (1896–1934)</p> <p>Mary Cover Jones (1896–1987)</p>	1895	Le Bon publishes <i>The Crowd</i> (Chapter 10).
<p>Gordon W. Allport (1897–1967)</p> 	1896	<p>Witmer establishes his Psychological Clinic (Chapter 15).</p> <p>Calkins publishes her Ph.D. study using the paired-associates technique (Chapter 8).</p>
<p>David Shakow (1901–1981)</p>	1895–1898	Titchener promotes structuralism.
<p>Carl Rogers (1902–1987)</p> <p>Starke Hathaway (1903–1984)</p>	1900	Freud publishes <i>The Interpretation of Dreams</i> (Chapter 11).
<p>B. F. Skinner (1904–1990)</p> 	1904	Pavlov introduces the idea of conditioned reflexes in his Nobel Prize address (Chapter 9).
<p>Molly Harrower (1906–1999)</p>	1905	<p>Binet and Simon create the first workable intelligence test for children (Chapter 13).</p> <p>Calkins becomes the first woman elected president of the APA (Chapter 8).</p>
<p>Solomon Asch (1907–1996)</p> <p>Abraham Maslow (1908–1970)</p>	1908	<p>Gamble takes over the Wellesley College psychology lab (Chapter 8).</p> <p>Scott publishes <i>The Psychology of Advertising</i> (Chapter 15).</p>
	1909–1910	Freud's only visit to America and publication of his lectures at Clark University (Chapter 11).
	1910	Wertheimer has his inspiration for the phi phenomenon and Gestalt psychology (Chapter 4).

		1911–1912	Adler and Jung break with Freud (Chapter 11).
Alan Turing (1912–1954)			
Bärbel Inhelder (1913–1997)		1913	Münsterberg publishes <i>Psychology and Industrial Efficiency</i> (Chapter 15).
Albert Ellis (1913–2007)		1913	Watson publishes “Psychology as the Behaviorist Views It” (Chapter 9).
		1914	Gilbreth publishes <i>The Psychology of Management</i> (Chapter 15).
Jerome S. Bruner (1915–2016)			
Claude Shannon (1916–2001)	Hans Eysenck (1916–1997)	1916	Terman introduces the Stanford-Binet Intelligence Scale (Chapter 13). Hollingworth and Lowie publish “Science and Feminism” (Chapter 15).
		1917	The short-lived American Association of Clinical Psychologists is established (Chapter 15).
Brenda Milner (b. 1918)		1919	Floyd Allport completes the first experimental social psychology Ph.D. dissertation (Chapter 10).
George A. Miller (1920–2012)			
Paul Meehl (1920–2003)			
Aaron Beck (b. 1921)		1921	Rorschach publishes his inkblot tests in <i>Psychodiagnostics</i> (Chapter 16).

Ulric Neisser (1928–2012)		1924	Gordon Allport teaches the first university course on “personality” (Chapter 12).
		1924	Jones deconditions Little Peter’s fear response (Chapter 9).
		1927	Studies establishing the Hawthorne effect are begun, supervised by Mayo (Chapter 15).
Noam Chomsky (b. 1928)			
		1929	Lashley publishes on cerebral equipotentiality and mass action (Chapter 3).
		1930	Freud publishes <i>Civilization and Its Discontents</i> (Chapter 11).
Stanley Milgram (1933–1984)		1933	Heidbreder publishes <i>Seven Psychologies</i> (Chapter 8).
		1934	Penfield establishes the Montreal Neurological Institute and begins stimulating the brains of conscious epileptic patients (Chapter 3).
		1936	Piaget publishes <i>The Origins of Intelligence in Children</i> (Chapter 13).
		1937	Gordon Allport publishes <i>Personality: A Psychological Interpretation</i> (Chapter 12).
		1937	Newman, Freeman, and Holzinger publish the first major study of separated twins (Chapter 7).
		1937	Turing publishes an account of his Turing machine (Chapter 14).

Elizabeth Loftus
(b. 1944)

1938	<p>Skinner publishes <i>The Behavior of Organisms</i> (Chapter 9).</p> <p>Shannon publishes “A Symbolic Analysis of Relay and Switching Circuits” (Chapter 14).</p>
1942	<p>Hollingworth publishes <i>Children Above 180 IQ</i> (Chapter 15).</p> <p>Marston’s creation Wonder Woman makes her comic book debut (Chapter 15).</p> 
1943	<p>Maslow publishes his hierarchy of needs theory (Chapter 12).</p>
1947	<p>Harrower outlines the functions and training of clinical psychologists (Chapter 16).</p>
1949	<p>Shakow participates in the Boulder conference where the scientist-practitioner model of clinical training is established (Chapter 16).</p>
1951	<p>Asch publishes the first results of his conformity research (Chapter 10).</p>
1954	<p>Meehl publishes <i>Clinical Versus Statistical Prediction</i> (Chapter 16).</p>
1956	<p>Milner publishes the case of H.M. (Chapter 3).</p>
1956	<p>Newell and Simon develop the Logic Theorist computer program (Chapter 14).</p> <p>Miller writes about the magical number seven (Chapter 14).</p>
1958	<p>Inhelder and Piaget publish <i>The Growth of Logical Thinking from Childhood to Adolescence</i> (Chapter 13).</p>
1959	<p>Chomsky publishes a critique of Skinner’s <i>Verbal Behavior</i> (Chapters 9, 14).</p>

1961	<p>The <i>Journal of Humanistic Psychology</i> is established (Chapter 12).</p> <p>Miller and Bruner establish the Harvard Center for Cognitive Studies (Chapter 14).</p>
1963	<p>Milgram publishes the results from his obedience studies using a Shock Generator (Chapter 10).</p>
1967	<p>Neisser publishes <i>Cognitive Psychology</i> (Chapter 14).</p> <p>Beck publishes a book outlining his cognitive theory of depression (Chapter 16).</p>
1971	<p>Skinner publishes <i>Beyond Freedom and Dignity</i> (Chapter 9).</p>
1995	<p>Loftus publishes a study using the “lost in the mall” technique to simulate the phenomenon of repressed memories (Chapter 10).</p>

ABOUT THE AUTHORS

Raymond E. Fancher is a Senior Scholar and Professor Emeritus at York University in Toronto. A founder of York's Ph.D. program in the History and Theory of Psychology, he has served as editor of the *Journal of the History of the Behavioral Sciences* and held executive positions with the Society for the History of Psychology (Division 26 of the American Psychological Association) and Cheiron (The International Society for the History of Behavioral and Social Sciences). The author of *Psychoanalytic Psychology: The Development of Freud's Thought* and *The Intelligence Men: Makers of the IQ Controversy* (both published by Norton), and nearly 100 other publications on the history of psychology, he is a recipient of the Lifetime Achievement Award from the Society for the History of Psychology.

Alexandra Rutherford is a Professor of Psychology in the History and Theory of Psychology Graduate Program at York University in Toronto. Her research interests include the history and contemporary status of feminist psychology and the relationships between psychology and American society from the mid-twentieth century to today. She is a fellow of four divisions of the American Psychological Association and is author of *Beyond the Box: B. F. Skinner's Technology of Behavior from Laboratory to Life, 1950s-1970s* (University of Toronto Press) and the Project Director for *Psychology's Feminist Voices* (www.feministvoices.com).



PIONEERS OF PSYCHOLOGY



Introduction: Studying the History of Psychology

The Value of Studying History

The History of Psychology Has a History

Ways to Study the Past

Our Historiographic Approach

As a psychology student, you might be wondering: Why should I study the history of psychology? How will I benefit from a knowledge of history? If you were a physics major, you probably wouldn't have to take a course on the history of physics as part of your degree requirements, even though it is a fascinating topic! The history of psychology, however, is often included in the psychology curriculum at the undergraduate and graduate levels. It is particularly relevant to your study of contemporary psychology for a number of reasons.

THE VALUE OF STUDYING HISTORY

Historical study, first of all, provides an opportunity to step outside the internal mechanisms of the discipline of psychology itself—the data, experiments, methods, theories, and facts that make up the established canon of the field. Doing so can help you see how all these elements developed in relation to specific problems that arose in individual, social, professional, and political contexts.

For example, how and why do we use the scientific method to address psychological questions? What debates have resulted from this approach, and what were the consequences? We can find the answers in the struggles of psychology's early pioneers, who saw both advantages and limitations to establishing psychology's scientific credentials. William James, whom you'll meet in Chapter 8, spent twelve years grappling with what a *science* of psychology would look like and what methods were most appropriate for this scientific discipline. His efforts to define psychology as a science reflected his own deep uncertainty about the whole enterprise, and eventually led him to conclude that some of the most important questions lay outside the reach of pure science and required a more philosophical approach. Others disagreed, and as we become aware of this debate we can potentially expand our current methodological horizons, and rethink the issue of what a scientific psychology does well and where it has limits.

Why do Freud's theories of female development take the form they do? (Hint: Freud's own thinking was influenced by the gender norms of his time and place.) How did John Watson's behaviorism arise and take hold in American psychology? (Hint: Watson's own discomfort with the more philosophical methods of the time, and the need to make psychology useful to society, combined to provide fertile ground for a new approach.) What are the roots of the nature-nurture debate in psychology, and how might you evaluate contemporary claims about the relative influence of genes versus environment? (Hint: Francis Galton's preoccupation with his own abilities relative to those of others from the same privileged class influenced his position on the role heredity plays in personal accomplishments.) These are all examples of the kinds of questions the history of psychology can help you identify and answer—thereby enriching not only your historical knowledge, but also your contemporary understanding of systems and questions that circulate today.

A second benefit of learning history is that ideas we may regard today as old or mistaken can appear reasonable when presented in their original context. This understanding can help us evaluate current psychological findings more astutely. For example, in the seventeenth century René Descartes conceived of the nerves as hollow tubes through which “spirits” flowed (see Chapter 2). He was later proven to be mistaken, but in the context of the available information during his time, this was a completely reasonable idea to propose. Moreover, it was a productive mistake that could be tested and later corrected. Franz Mesmer's theory of “animal magnetism” as the force producing what we today call hypnotism may now seem outlandish (**Figure 1.1**). In Paris during the late eighteenth century, however, there were countless popular notions about the powers of invisible forces, such as gravitation, electricity, or the heated

air that caused balloons to rise. Magnetism seemed to be another such force, and it was not unreasonable to speculate about its possible influence on human beings. Historical knowledge, therefore, enables us to more thoughtfully assess—and not dismiss—previous ideas simply based on what we know now.

Because the same kinds of influences that have affected the development of psychology in the past operate today, this historical awareness can contribute to your ability to critically examine contemporary ideas and developments. Psychologists are still influenced by their individual, social, professional, and political contexts. To the extent that these contexts are always changing, so does psychology. What appears absolutely true and taken-for-granted today may appear just as old or mistaken in the future, like animal magnetism does to us now. So, to make informed choices about what to study, how to study it, and to be able to more thoughtfully evaluate current scientific claims, a historical, contextual overview of the discipline and its relationship to society is indispensable. At its best, this is what history can offer.

A third reason for studying psychology's history is that it helps us appreciate the "reflexive" nature of the field. **Reflexivity** refers to the human ability to become aware of, and reflect upon, one's own activities. At its simplest level, reflexivity occurs when young children first recognize that the images they see in a mirror are of themselves; at a higher level, it occurs when we think about our own thinking; and at its highest level it refers to the capacity for psychological theories to change the way we understand ourselves. We will see in upcoming chapters that this capacity for self-awareness was an important element in several philosophical systems that established foundations for modern psychology. Early philosophers debated whether self-awareness was possible in the absence of prior experience or sensory stimulation; later, philosophers and psychologists pondered the difficulties of using their own minds to understand the mind itself. How is it possible, they asked, for the agent and object of study to be one and the same? How can the mind or consciousness become an object of study when that same mind is the tool with which we are studying it?

The history of psychology traces the different viewpoints involved in this conundrum, as well as the methods psychologists have devised to help them study the mind objectively. Some psychologists felt the inherent reflexivity of psychology made the objective study of the mind an impossible task. They

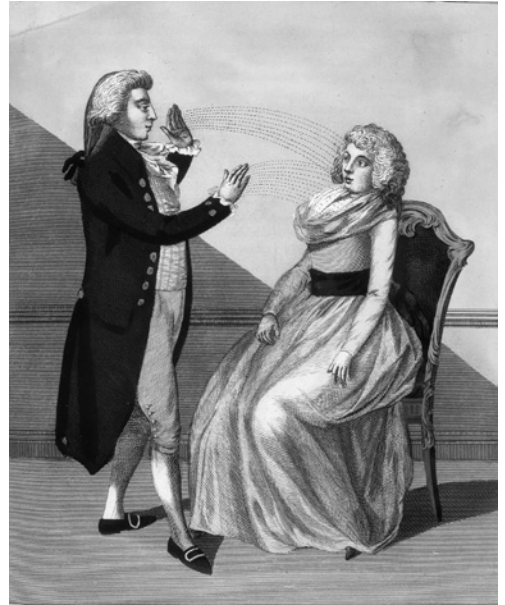


Figure 1.1 Animal magnetism and mesmerism might seem like outlandish concepts today, but in their own time and place they were not implausible.

suggested that we study only observable behavior, leaving the mind alone. Others proposed, for example, that we conceptualize the mind as an information-processing machine and built models of how the mind takes in, processes, and then acts on information. This leads to one further, and more complex, aspect of reflexivity: altering self-understanding.

Because many psychologists propose theories about being human, and because humans are self-aware and can reflect on those theories, this reflection may, in fact, lead to changes in self-understanding. As mentioned, some psychologists postulate that the brain resembles a highly complex computing machine. Others suggest that humans are essentially irrational, driven by unconscious motivations over which they have little control. These models of human nature can begin to change how we think about ourselves and explain our own behavior. The various proposals about human nature put forth by psychologists provide a window on how people have thought about themselves and how these views have changed over time. We believe an excellent way to understand this process and its impact is through *historical* study. This historical study of changes in self-understanding is a kind of “historical psychology.”

THE HISTORY OF PSYCHOLOGY HAS A HISTORY

In addition to these compelling reasons for studying the history of psychology, it is also, simply put, a fascinating subject. Ever since the early development of psychology as a scientific discipline, psychologists themselves have been interested in writing and studying their own history, and students have been interested in learning about it. One of the first American texts on the history of psychology appeared in 1912: *Founders of Modern Psychology*, by G. Stanley Hall (whom you’ll meet again in Chapter 8). In this book, Hall wrote about six men with whom he had studied in Germany, and presented them as some of the “founding fathers” of experimental psychology. He included several figures who will become familiar to you in the upcoming pages, such as Hermann von Helmholtz, Gustav Fechner, and Wilhelm Wundt.

Another early text was Edwin G. Boring’s *A History of Experimental Psychology*, originally published in 1929. Boring, a student of E. B. Titchener (see Chapter 5), had a particular agenda when writing his historical account of psychology up to that time. He wanted to reinforce the status of psychology as a laboratory-based experimental science, a status he felt was being weakened by the flourishing of what he saw as a “soft-minded” and nonscientific applied psychology after the First World War. In part Boring was interested in history because it could help him achieve a political aim, but he was also intrigued by the question of how and why certain kinds of people make it into the history

books and others don't. Was it sheer genius? Was it being in the right place at the right time? Boring spent a great deal of time trying to determine the relative influence of these factors, as well as how to define scientific eminence and how it could be achieved. By all accounts, Boring was also insecure about his own reputation and accomplishments. His interest in eminence probably stemmed from personal as well as purely intellectual concerns. The intersection of the personal and the intellectual is one of the guiding themes of *Pioneers of Psychology*.

We will return to the thorny question of who gets into the history books and who doesn't a bit later. Clearly, the history of psychology has been of longstanding interest to psychologists themselves for a variety of reasons, and this is reflected in the journals, organizations, and academic programs psychologists began to develop in the 1960s. In the United States, perhaps no one was more influential in establishing history as a recognized subfield of psychology than Robert I. Watson. Trained as a clinical psychologist and published in that field, Watson turned to history in 1953, writing an article entitled "A Brief History of Clinical Psychology." Noting somewhat wryly that this article seemed to strike a more responsive chord than "all my other articles combined,"¹ he decided, in 1959, to devote himself exclusively to historical scholarship and identify as a historian of psychology.

Having made this choice, Watson realized there was no organized community for sharing ideas and stimulating historical research. Therefore, in what was arguably his greatest contribution of all, he went about creating that community. He published an article entitled "History of Psychology: A Neglected Area"² in the *American Psychologist*, the journal of the American Psychological Association (APA), and together with two colleagues sent an invitation to anyone interested in the history of psychology to join them at the 1960 meeting of the APA convention. One of these invitations went to Edwin G. Boring (**Figure 1.2**). Although it is unknown whether Boring attended, according to Watson about fifteen people turned up. Watson later dedicated his book *The Great Psychologists* to Boring, referring to him as "my teacher, under whom I never studied."³

These modest beginnings generated several developments, most of them spearheaded by Watson. In 1965, the original group of fifteen had expanded enough to justify a new division of the APA devoted to history: Division 26. Watson also founded a new journal, the *Journal of the History of the Behavioral Sciences*, and served as its first editor. In 1967 he moved from his position at Northwestern University outside Chicago to an intriguing new post at the University of New Hampshire. There his job would be to build their graduate programs, including one devoted to specialized training in the history and theory of psychology. In 1967, the first graduate program devoted to the area was

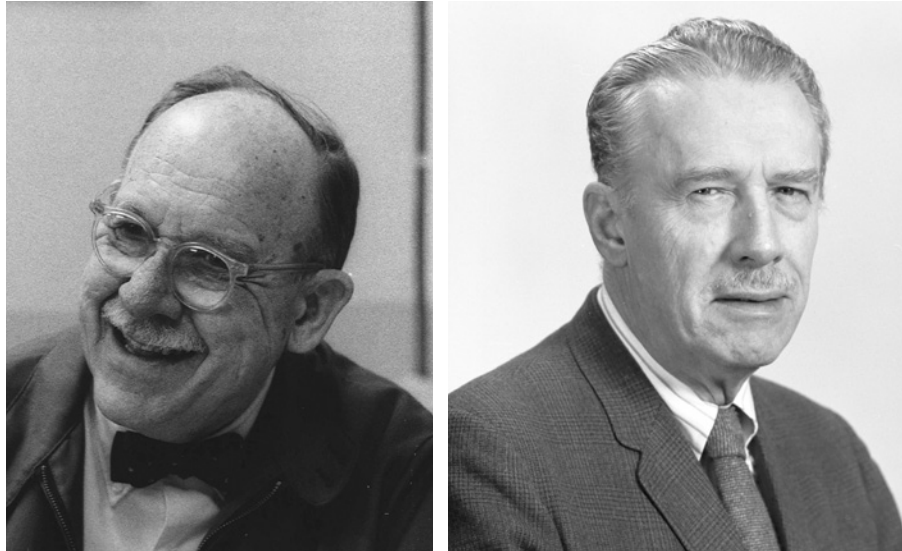


Figure I.2 Edwin G. Boring (left) and his “student” Robert I. Watson.

established. Only a year later, with grant support from the National Science Foundation, Watson and his colleague Josef Brožek convened a summer institute for teaching the history of psychology that provided the impetus for a new, independent organization called Cheiron: The International Society for the History of the Social and Behavioral Sciences. Although the “international” status of the group was more aspirational than actual, it nonetheless signaled growing international interest in the field. The 1970s and 1980s saw the institutional presence of the history of psychology solidified in Canada and Europe, and today there are communities of scholars all over the world who publish and meet in their own specialized journals and conferences. **Table I.1** provides a selective list of these founding and international developments.

WAYS TO STUDY THE PAST

Having established the value and relevance of studying psychology’s history, let’s take a look at history as a form of inquiry that uses certain methods and principles, just like any area of the discipline. **Historiography** is a collective term for the theory, history, methods, and assumptions of writing history. Historiography can also refer to a body of historical work, much like discography refers to a musician’s body of recorded music. We might say that the historiography on Freud, for example, is voluminous, meaning there is a vast literature on Freud. Or we might say certain histories of Freud are celebratory, referring to the

Table I.1 | ORGANIZATIONS, JOURNALS, CENTERS, AND GRADUATE PROGRAMS IN THE HISTORY OF PSYCHOLOGY

Year	Founding Event
1965	American Psychological Association's Division 26, History of Psychology Archives of the History of American Psychology, Akron, Ohio <i>Journal of the History of the Behavioral Sciences</i>
1967	Graduate program in the History and Theory of Psychology at the University of New Hampshire
1968	Cheiron, the International Society for the History of the Social and Behavioral Sciences
1979	Storia e Critica della Psicologia (Italy)
1980	Revista de Historica de la Psicología (Spain)
1981	Graduate program in the History and Theory of Psychology at York University in Toronto
1982	Cheiron Europe (now the European Society for the History of the Human Sciences)
1984	History and Philosophy of Psychology Section of the British Psychological Society
1988	History and Philosophy of Psychology Section of the Canadian Psychological Association <i>History of the Human Sciences</i> journal
1989	Historical section of the German Psychological Association Forum for the History of the Human Sciences of the History of Science Society <i>Psychologie und Geschichte</i> journal (Germany)
1998	American Psychological Association establishes APA Historian position <i>History of Psychology</i> , the official journal of Division 26
1999	<i>Revue d'Histoire des Sciences Humaines</i> journal (France)
2000	<i>Psychologie et Histoire</i> journal (France)
2004	British Psychological Society's History of Psychology Centre
2007	Theory and History of Psychology program in the Psychology Department, University College Dublin <i>Advances in the History of Psychology</i> blog
2010	NUHFIP Center for the History and Philosophy of Psychology, Brazil <i>Psychologia Latina</i> journal (Spain) Cummings Center for the History of Psychology (incorporating the Archives of the History of American Psychology), Akron, Ohio
2011	Graduate program in the History and Philosophy of Psychology at the Federal University of Juiz de Fora, Brazil
2014	<i>European Yearbook of the History of Psychology</i>

tendency of some writers to avoid criticizing his accomplishments. (Actually, Freud scholarship varies widely, from celebratory to intensely critical.) A celebratory approach reflects the historian's positive bias toward a figure or event, just as a critical approach reveals a different set of assumptions. The general point is that personal perspectives and ways of approaching a subject can sometimes color any historian's interpretation.