

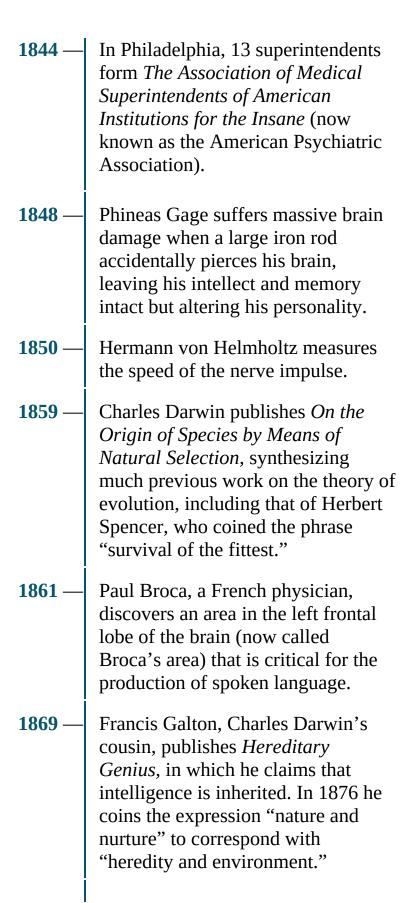
The Story of Psychology: A Timeline

by Charles L. Brewer, Furman University

B.C.E.	
387 —	Plato, who believed in innate ideas, suggests that the brain is the seat of mental processes.
335 —	Aristotle, who denied the existence of innate ideas, suggests that the heart is the seat of mental processes
C.E.	
1604 —	Johannes Kepler describes inverted image on the retina.
1605 —	Francis Bacon publishes The Proficiency and Advancement of Learning.
1636 —	Harvard College is founded.
1637 —	René Descartes, the French philosopher and mathematician who proposed mind-body interaction and the doctrine of innate ideas, publishes <i>A Discourse on Method</i> .
1690 —	John Locke, the British philosopher who rejected Descartes' notion of innate ideas and insisted that the mind at birth is a "blank slate" (tabula rasa), publishes An Essay

Concerning Human Understanding, which stresses empiricism over speculation.

- 1774 Franz Mesmer, an Austrian physician, performs his first supposed cure using "animal magnetism" (later called mesmerism and hypnosis). In 1777 he was expelled from the practice of medicine in Vienna.
- Philippe Pinel releases the first mental patients from their chains at the Bicêtre Asylum in France and advocates for more humane treatment of mental patients.
- 1802 Thomas Young publishes *A Theory* of Color Vision in England. (His theory was later called the trichromatic theory.)
- 1808 Franz Joseph Gall, a German physician, describes phrenology, the belief that the shape of a person's skull reveals mental faculties and character traits.
- 1813 The first private psychiatric hospital in the United States opens in Philadelphia.
- Ernst Heinrich Weber publishes *The Sense of Touch*, in which he discusses the "just noticeable difference *(jnd)*" and what we now call Weber's law.



Carl Wernicke, a German neurologist and psychiatrist, shows that damage to a specific area in the left temporal lobe (now called Wernicke's area) disrupts ability to comprehend or produce spoken or written language. 1878 -G. Stanley Hall receives from Harvard University's Department of Philosophy the first U.S. Ph.D. degree based on psychological research. Wilhelm Wundt establishes at the 1879 -University of Leipzig, Germany, the first psychology laboratory, which becomes a mecca for psychology students from all over the world. 1883 -G. Stanley Hall, student of Wilhelm Wundt, establishes the first formal U.S. psychology laboratory at Johns Hopkins University. 1885 -Hermann Ebbinghaus publishes *On Memory*, summarizing his extensive research on learning and memory, including the "forgetting curve." Joseph Jastrow receives from Johns **1886** – Hopkins University the first Ph.D. degree in psychology awarded by a Department of Psychology in the United States. Alfred Binet and Henri Beaunis establish the first psychology

laboratory in France at the Sorbonne, and the first International Congress of Psychology meets in Paris. 1890 -William James, Harvard University philosopher and psychologist, publishes *The Principles of Psychology*, describing psychology as "the science of mental life." James Mark Baldwin establishes the 1891 – first psychology laboratory in the British Commonwealth at the University of Toronto. G. Stanley Hall spearheads the 1892 founding of the American Psychological Association (APA) and becomes its first president. Mary Whiton Calkins and Christine 1893 -Ladd-Franklin are the first women elected to membership in the APA. 1894 — Margaret Floy Washburn is the first woman to receive a Ph.D. degree in psychology (Cornell University). Harvard University denies Mary Whiton Calkins admission to doctoral candidacy because of her gender, despite Hugo Münsterberg's claim that she was the best student he had ever had there. John Dewey publishes "The Reflex Arc Concept in Psychology," helping to formalize the school of

	psychology called functionalism.
1898 —	In <i>Animal Intelligence</i> , Edward L. Thorndike, Columbia University, describes his learning experiments with cats in "puzzle boxes." In 1905 , he proposes the "law of effect."
1900 —	Sigmund Freud publishes <i>The Interpretation of Dreams</i> , his major theoretical work on psychoanalysis.
1901 —	Ten founders establish the British Psychological Society.
1904 —	Ivan Pavlov is awarded the Nobel Prize for Physiology or Medicine for his studies on the physiology of digestion.
1905 —	Mary Whiton Calkins becomes the first woman president of the APA.
_	Ivan Petrovich Pavlov begins publishing studies of conditioning in animals.
_	Alfred Binet and Théodore Simon produce the first intelligence test for assessing the abilities and academic progress of Parisian schoolchildren.
1909 —	Sigmund Freud makes his only trip to America to deliver a series of lectures at Clark University.
1913 —	John B. Watson outlines the tenets of behaviorism in a <i>Psychological Review</i> article, "Psychology as the

Behaviorist Views It."

During World War I, Robert Yerkes and his staff develop a group intelligence test for evaluating U.S. military personnel, which increases the U.S. public's acceptance of psychological testing.

Leta Stetter Hollingworth publishes *The Psychology of Subnormal Children*, an early classic. In **1921** she is cited in *American Men of Science* for her research on the psychology of women.

 John B. Watson and Rosalie Rayner report conditioning a fear reaction in a child called "Little Albert."

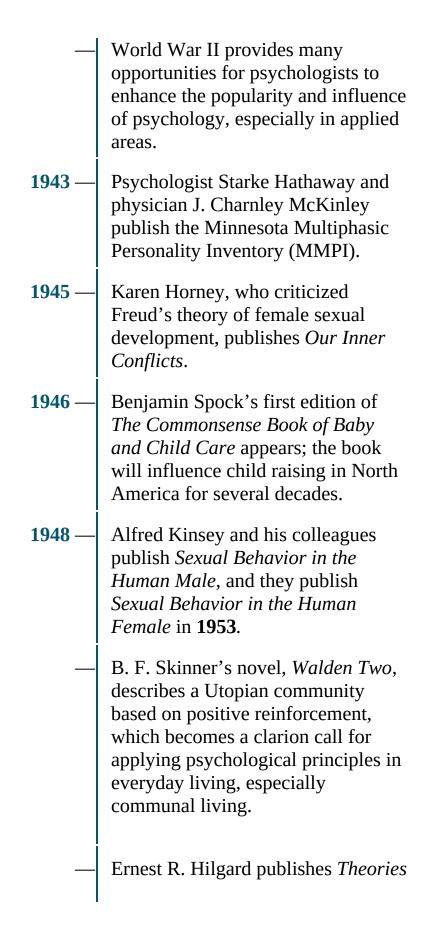
1921 — Hermann Rorschach, a Swiss psychiatrist, introduces the Rorschach Inkblot Test.

1923 — Developmental psychologist Jean Piaget publishes *The Language and Thought of the Child*.

1924 — Mary Cover Jones reports reconditioning a fear reaction in a child (Peter), a forerunner of systematic desensitization developed by Joseph Wolpe.

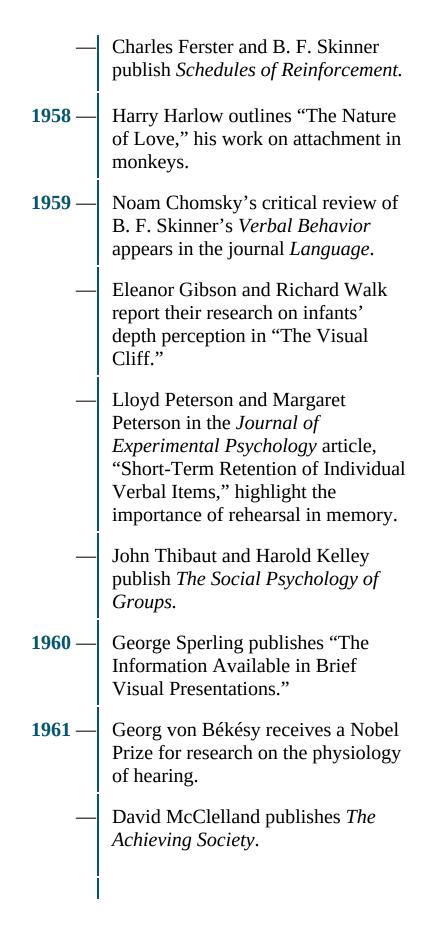
In Introduction to the Technique of Child Analysis, Anna Freud discusses psychoanalysis in the treatment of children. 1929 -Wolfgang Köhler publishes *Gestalt* Psychology, which criticizes behaviorism and outlines essential elements of the gestalt position and approach. Margaret Floy Washburn becomes 1931 the first female psychologist (and the second female scientist in any discipline) elected to the U.S. National Academy of Sciences. **1932** — In *The Wisdom of the Body*, Walter B. Cannon coins the term homeostasis, discusses the fight-orflight response, and identifies hormonal changes associated with stress. Inez Beverly Prosser becomes the 1933 first African-American woman to receive a doctoral degree in psychology from a U.S. institution (Ph.D., University of Cincinnati). 1935 -Christiana Morgan and Henry Murray introduce the Thematic Apperception Test to elicit fantasies from people undergoing psychoanalysis. Egas Moniz, a Portuguese physician,

publishes work on the first frontal lobotomies performed on humans. B. F. Skinner publishes *The* 1938 -Behavior of Organisms, which describes operant conditioning of animals. In Primary Mental Abilities, Louis L. Thurstone proposes seven such abilities. Ugo Cerletti and Lucio Bini use electroshock treatment with a human patient. 1939 -David Wechsler publishes the Wechsler–Bellevue intelligence test, forerunner of the Wechsler Intelligence Scale for Children (WISC) and the Wechsler Adult Intelligence Scale (WAIS). Mamie Phipps Clark receives a master's degree from Howard University. In collaboration with Kenneth B. Clark, she later extends her thesis, "The Development of Consciousness of Self in Negro Preschool Children," providing joint research cited in the U.S. Supreme Court's **1954** decision to end racial segregation in public schools. Edward Alexander Bott helps found the Canadian Psychological Association. He becomes its first president in **1940**.



	of Learning, which was required reading for several generations of psychology students in North America.
1949 —	Raymond B. Cattell publishes the Sixteen Personality Factor Questionnaire (16PF).
_	The scientist-practitioner model of training is approved at The Boulder Conference on Graduate Education in Clinical Psychology.
1949 —	In <i>The Organization of Behavior: A Neuropsychological Theory</i> , Canadian psychologist Donald O. Hebb outlines a new and influential conceptualization of how the nervous system functions.
1950 —	Solomon Asch publishes studies of effects of conformity on judgments of line length.
_	In <i>Childhood and Society</i> , Erik Erikson outlines his stages of psychosocial development.
1951 —	Carl Rogers publishes <i>Client- Centered Therapy</i> .
1952 —	The American Psychiatric Association publishes the Diagnostic and Statistical Manual of Mental Disorders, an influential book that will be updated periodically.

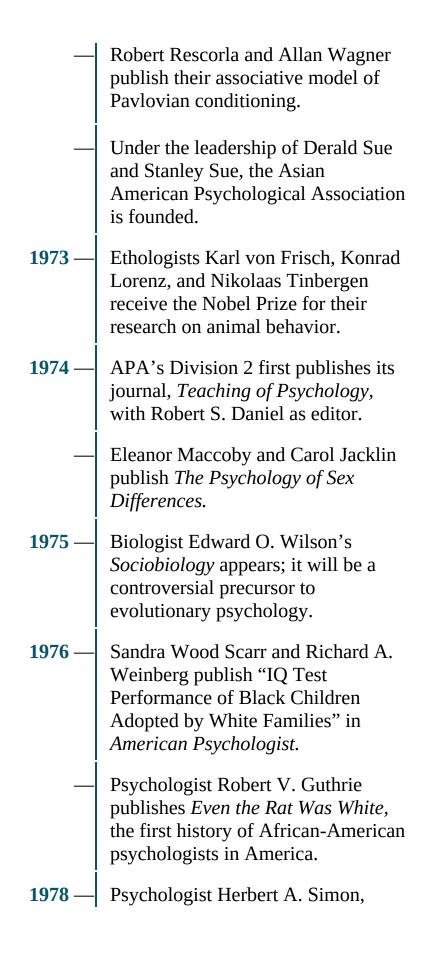
1953 — Eugene Aserinski and Nathaniel Kleitman describe rapid eye movements (REM) that occur during sleep. Janet Taylor's Manifest Anxiety Scale appears in the *Journal of* Abnormal Psychology. **1954** — In Motivation and Personality, Abraham Maslow proposes a hierarchy of motives ranging from physiological needs to selfactualization. (Maslow later updates the hierarchy to include selftranscendence needs.) James Olds and Peter Milner, McGill University neuropsychologists, describe the rewarding effects of electrical stimulation of the hypothalamus in rats. Gordon Allport publishes *The Nature of Prejudice.* **1956** — In his *Psychological Review* article titled "The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information," George Miller coins the term *chunk* for memory researchers. **1957** — Robert Sears, Eleanor Maccoby, and Harry Levin publish *Patterns* of Child Rearing.



1962 —	Jerome Kagan and Howard Moss publish <i>Birth to Maturity</i> .
_	Stanley Schachter and Jerome Singer publish findings that support the two-factor theory of emotion.
_	Albert Ellis' <i>Reason and Emotion in Psychotherapy</i> appears; it is a milestone in the development of rational-emotive therapy (RET).
1963 —	Raymond B. Cattell distinguishes between <i>fluid</i> and <i>crystallized</i> intelligence.
_	Stanley Milgram's "Behavioral Study of Obedience" appears in the <i>Journal of Abnormal and Social Psychology</i> .
1965 —	Canadian researcher Ronald Melzack and British researcher Patrick Wall propose the gate- control theory of pain.
_	Robert Zajonc's "Social Facilitation" is published in <i>Science</i> .
_	The Archives of the History of American Psychology is founded at the University of Akron.
1966 —	Nancy Bayley becomes the first woman to receive the APA's Distinguished Scientific Contribution Award.
_	Jerome Bruner and colleagues at

	Harvard University's Center for Cognitive Studies publish <i>Studies in Cognitive Growth</i> .
_	William Masters and Virginia Johnson publish results of their research in <i>Human Sexual Responses</i> .
_	Allen Gardner and Beatrix Gardner begin training a chimpanzee (Washoe) in American Sign Language at the University of Nevada, Reno. Washoe dies in 2007.
_	John Garcia and Robert Koelling publish a study on taste aversion in rats.
_	David M. Green and John A. Swets publish <i>Signal Detection Theory and Psychophysics</i> .
_	Julian Rotter publishes research on locus of control.
1967 —	Ulric Neisser's <i>Cognitive Psychology</i> helps to steer psychology away from behaviorism and toward cognitive processes.
_	Martin Seligman and Steven Maier publish the results of their research with "learned helplessness" in dogs.
1968 —	Richard Atkinson and Richard Shiffrin's influential three-stage memory model appears in <i>The</i> Psychology of Learning and

	Motivation.
_	Neal E. Miller's article in <i>Science</i> , describing instrumental conditioning of autonomic responses, stimulates research on biofeedback.
1969 —	Albert Bandura publishes <i>Principles</i> of <i>Behavior Modification</i> .
_	In his APA presidential address, "Psychology as a Means of Promoting Human Welfare," George Miller emphasizes the importance of "giving psychology away."
1971 —	Kenneth B. Clark becomes the first African-American president of the American Psychological Association.
_	Albert Bandura publishes <i>Social Learning Theory</i> .
_	Allan Paivio publishes <i>Imagery and Verbal Processes</i> .
_	B. F. Skinner publishes <i>Beyond</i> Freedom and Dignity.
1972 —	Elliot Aronson publishes <i>The Social Animal</i> .
	Fergus Craik and Robert Lockhart's "Levels of Processing: A Framework for Memory Research" appears in the <i>Journal of Verbal Learning and Verbal Behavior</i> .



	Carnegie-Mellon University, wins a Nobel Prize for pioneering research on computer simulations of human thinking and problem solving.
1979 —	James J. Gibson publishes The <i>Ecological Approach to Visual Perception</i> .
_	Elizabeth Loftus publishes <i>Eyewitness Testimony</i> .
1981 —	David Hubel and Torsten Wiesel receive a Nobel Prize for research on single-cell recordings that identified feature detector cells in the visual cortex.
_	Roger Sperry receives a Nobel Prize for research on split-brain patients.
_	Paleontologist Stephen Jay Gould publishes <i>The Mismeasure of Man</i> , highlighting the debate concerning biological determination of intelligence.
1983 —	In his <i>Frames of Mind</i> , Howard Gardner outlines his theory of multiple intelligences.
1984 —	The American Psychological Association creates Division 44 (Society for the Psychological Study of Lesbian and Gay Issues).
	Robert Sternberg proposes the triarchic theory of human intelligence in <i>Behavioral and Brain</i>

Sciences. Elizabeth Scarborough and Laurel Furumoto publish *Untold Lives: The* First Generation of American Women Psychologists. Fluoxetine (Prozac) is introduced as a treatment for depression. Wilbert J. McKeachie, University of Michigan, receives the first APA Award for Distinguished Career Contributions to Education and Training in Psychology. 1988 -The American Psychological Society is founded. It changes its name to Association for Psychological Science in 2006. 1990 -Psychiatrist Aaron Beck receives the Distinguished Scientific Award for the Applications of Psychology for advancing understanding and treatment of psychopathol-ogy, including pivotal contributions to the development of cognitive therapy. B. F. Skinner receives APA's first Citation for Outstanding Lifetime Contributions to Psychology and presents his last public address, "Can Psychology Be a Science of Mind?" (He died a few days later at age 86.) Martin Seligman publishes Learned

Optimism, which foreshadows the "positive psychology" movement. Teachers of Psychology in 1992 -Secondary Schools (TOPSS) is established as part of the APA. About 3,000 U.S. secondary school students take the first Advanced Placement (AP) Examination in Psychology, hoping to earn exemption from an introductory psychology course at the postsecondary level. **1993** -Psychologist Judith Rodin is elected president of the University of Pennsylvania, becoming the first female president of an Ivy League school. Dorothy Cantor becomes the first 1996 president of the APA with a Psy.D. degree. 2002 -New Mexico becomes the first U.S. state to allow qualified clinical psychologists to prescribe certain drugs. Psychologist Daniel Kahneman, Princeton University, receives a Nobel Prize for research on decision making. Proposed by participants at the 2008 national conference at the University of Puget Sound, the document,

"Principles for Quality Undergraduate Education in Psychology," is approved as official APA policy.

2013 — U.S. President Barack Obama announces \$100 million in funding for an interdisciplinary project to advance understanding of the human brain.

2015 — The *Independent Review Relating to* APA Ethics Guidelines, National *Security Interrogations, and Torture* is presented to the American Psychological Association.

TWELFTH EDITION

Psychology

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COVER PHOTO: Red Chopsticks/Getty Images

Library of Congress Control Number: 2017945434

ISBN-13: 978-1-319-05062-7 (epub)

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One New York Plaza
Suite 4500
New York, NY 10004-1562
www.macmillanlearning.com

For Christine Brune: With gratitude for her three decades as my superlative editor, and my friend

DM

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To Erica (DeWall) Corner: Loving sister, caring mother, gifted teacher and photographer

ND

About the Authors



Hope College Public Relations

David Myers received his B.A. in chemistry from Whitworth University, and his psychology Ph.D. from the University of Iowa. He has spent his career at Hope College in Michigan, where he has taught dozens of introductory psychology sections. Hope College students have invited him to be their commencement speaker and voted him "outstanding professor."

His research and writings have been recognized by numerous awards and honors, including the Gordon Allport Intergroup Relations Prize, an Honored Scientist award from the Federation of Associations in Behavioral & Brain Sciences, an Award for Service on Behalf of Personality and Social Psychology, a Presidential Citation from APA Division 2, election as an American Association for the Advancement of Science Fellow, and three honorary doctorates.

With support from National Science Foundation grants, Myers' scientific articles have appeared in three dozen scientific periodicals, including *Science*, *American Scientist*, *Psychological Science*, and the *American Psychologist*. In addition to his scholarly and textbook writing, he digests psychological science for the general public. His writings have appeared in four dozen magazines, from *Today's Education* to *Scientific American*. He also has authored five general audience books, including *The Pursuit of Happiness* and *Intuition: Its Powers and Perils*.

David Myers has chaired his city's Human Relations Commission, helped

found a thriving assistance center for families in poverty, and spoken to hundreds of college, community, and professional groups worldwide.

Drawing on his experience, he also has written articles and a book (*A Quiet World*) about hearing loss, and he is advocating a transformation in American assistive listening technology (see HearingLoop.org). For his leadership, he has received awards from the American Academy of Audiology, the hearing industry, and the Hearing Loss Association of America.

David and Carol Myers met and married while undergraduates, and have raised sons Peter and Andrew, and a daughter, Laura. They have one grandchild, Allie (seen on page 165).



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Nathan DeWall is professor of psychology and director of the Social Psychology Lab at the University of Kentucky. He received his bachelor's degree from St. Olaf College, a master's degree in social science from the University of Chicago, and a master's degree and Ph.D. in social psychology from Florida State University. DeWall received the College of Arts and Sciences Outstanding Teaching Award, which recognizes excellence in undergraduate and graduate teaching. The Association for Psychological Science identified DeWall as a "Rising Star" early in his career for "making significant contributions to the field of psychological science."

DeWall conducts research on close relationships, self-control, and aggression. With funding from the National Institutes of Health and the National Science Foundation, he has published over 190 scientific articles and chapters. DeWall's research awards include the SAGE Young Scholars Award from the Foundation for Personality and Social Psychology, the

Young Investigator Award from the International Society for Research on Aggression, and the Early Career Award from the International Society for Self and Identity. His research has been covered by numerous media outlets, including Good Morning America, *The Wall Street Journal, Newsweek, The Atlantic Monthly, The New York Times, The Los Angeles Times, Harvard Business Review, USA Today,* National Public Radio, the BBC, and *The Guardian*. He has lectured nationally and internationally, including in Hong Kong, China, the Netherlands, England, Greece, Hungary, Sweden, and Australia.

Nathan is happily married to Alice DeWall and is the proud father of Beverly "Bevy" and Ellis. He enjoys playing with his two golden retrievers, Finnegan and Atticus. In his spare time, he writes novels, watches sports, tends his chickens and goats, and runs and runs. He has braved all climates—from the snowy trails of Michigan to the scorching sands of the Sahara Desert—to complete over 1000 miles' worth of ultramarathons—including the Badwater 135 in 2017 (dubbed "the World's toughest foot race").

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