

[J. Hindman
EPP Brochure
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THE EINSTEIN PAPERS PROJECT

The Collected Papers of Albert Einstein at
The California Institute of Technology

Albert Einstein is the founder of modern physics and one of history's most prolific intellects. His name has been synonymous with "genius" almost since its first public mention.

Go almost anywhere on Earth, and almost anyone will recognize his rumpled likeness. A recent major survey of Europeans, Russians, and Americans ranked him as history's most "inspiring" figure. A Google search of his name generates 89 million hits. The same issue of *Time* magazine that elected him "Person of the 20th Century" quoted Stephen Hawking dubbing the General Theory of Relativity, "the greatest change in our perception of the arena in which we live since Euclid wrote his *Elements* about 300 B.C."

MASSIVE WRITTEN LEGACY

The most ambitious venture in the documentation of the history of science, the *Collected Papers of Albert Einstein* (CPAE) is an ongoing, chronological, multi-volume edition of the published and unpublished writings and correspondence of

Einstein (1879–1955). This first complete picture of his massive written legacy ranges from the scientific to the humanitarian, from the infancies of the special and general theories of relativity and quantum theory to Einstein’s immersion in human rights, education, Zionism, pacifism, and disarmament.

With Einstein the scientist and humanist we also see Einstein the philosopher, colleague, friend, husband, and father. His voluminous correspondence is addressed to Max Planck, Niels Bohr, Erwin Schrödinger, and Werner Heisenberg, as well as Sigmund Freud, Franklin Roosevelt, Mohandas Gandhi, Bertrand Russell, G.B. Shaw, Thomas Mann, W.E.B. DuBois, Le Corbusier, and Chaim Weizmann.

ALL THINGS EINSTEIN

The Einstein Papers Project (EPP) is the Pasadena, California-based home of “all things Einstein.” The 13 volumes of the CPAE published thus far include writings and correspondence through March 1923. Another 17 are planned. They bring together Einstein’s every article, book review, patent application, research notebook, and available lecture, as well as his speeches, interviews, and other oral statements.

The 30-volume series will boast some 15,000 annotated documents and more than 15,000 in abstract—all drawn from the 40,000-plus original items in the Albert Einstein Archives (AEA) at the Hebrew University of Jerusalem as well as those documents—which currently number more than 40,000—still being unearthed by EPP scholars.

UNPRECEDENTED ACCESS

Most of what we know about Albert Einstein has come to light only in the past 25 years—that is to say, only with the 1987 publication of volume 1 of the CPAE, the first scholarly edition of Einstein’s scientific writing, non-technical works, and correspondence.

With the publication of volume 1, scholars at last had unparalleled access to Einstein’s life and work. Each successive volume—whose authenticated and annotated documents appear in their original language and follow introductions that provide essential context—has only increased that access to historians of science, historians of the twentieth century, philosophers of science, teachers, and the general public.

To further widen this access, the publication of each volume is accompanied by the parallel release of an English-language, large-format paperback edition that includes a comprehensive index and cross-references to the endnotes in the documentary volume.

VOLUME HIGHLIGHTS

The CPAE chronicles not just a life, but a world in transition, for Einstein was both prime mover and eyewitness to one of history’s more turbulent eras. He lived through the Wilhelmine Empire, World War I, the Weimar Republic, Nazism, World

War II, and the beginnings of the Atomic Age and the Cold War.

The first volume in the series, *Early Years (1879–1902)*, documents the period leading up to Einstein’s appointment at the Swiss Patent Office in Bern. Later periods—*Swiss Years (1901–1914)*, *Berlin Years (1914–1933)*, and *Princeton Years (1933–1955)*—are each covered in subsequent volumes.

The cornerstone of **Volume 1** is 52 previously unknown letters from Einstein to his classmate, sweetheart, and first wife Mileva Marić. Copies of Einstein’s school certificates, his final leaving examinations and university notebooks, and other never-before-examined materials also appear here. One will learn that, contrary to widespread belief, Einstein did quite well in his small Swiss high school, earning high marks.

Volumes 2–4 document Einstein’s strenuous path to the General Theory of Relativity, his most revolutionary contribution to science. Here one will find his four masterpieces, the groundbreaking papers published one after the other in *Annalen der Physik* during his “year of miracles,” 1905: (1) light quanta/photoelectric effect, (2) Brownian motion, (3) Special Theory of Relativity, and (4) matter-energy equivalence ($E=mc^2$). Volume 4 features his (previously unknown) extensive calculations and notes on the perihelion of Mercury, as well as the famed “Zurich Notebook,” which maps his struggle to find the generally covariant field equations.

Taken together, **Volume 5** and the two books that comprise **Volume 8** are a singular achievement. Their 1200 letters, many only recently discovered by EPP editors, give us the richest picture yet of Einstein in his twenties and thirties. His scientific activity emerges here in its crucial complexity, especially his long struggle to generalize the 1905 Theory of Relativity to include gravitation and accelerated frames of reference. One will also find the details of the breakup of his first marriage and divorce, and correspondence that tracks his struggle to find satisfactory field equations for his new gravitational theory.

Volume 9 opens in 1919 with Einstein waiting to hear news of Britain's historic eclipse expedition, the first test of his theory's relativistic predictions of the sun's deflection of starlight. The news would be good. The volume goes on to reveal his deepening participation in the scientific, academic, and cultural life of Germany and Europe in the wake of World War I. Einstein's open-minded collegial exchanges on efforts to unify the theories of gravity and electromagnetism, and on the contradictory nature of relativity and the new quantum physics, belie the image that has come down to us of Einstein as a stubborn critic of quantum mechanics. Here, one can also see his response to growing German anti-Semitism, his reflections on his Jewish identity, and his efforts to help establish the Hebrew University of Jerusalem.

Volume 10 includes more correspondence published here for the first time: letters to Einstein from his sons—the adolescent Hans and little Eduard—and from Einstein to his new wife, Elsa. His lively epistolary debates on quantum physics

continue with Ehrenfest, H. A. Lorentz, and Heike Kamerlingh Onnes, and his exchanges with eminent philosophers drawn to his work multiply.

Einstein the world citizen is on view in **Volume 12**, which contains correspondence, lectures, documentation of honors and prizes, travel records, articles, and solicitations from public initiatives requesting his participation. Here, in accounts of the fundraising mission led by Chaim Weizmann that first brought Einstein to America, are Einstein's fraught beginnings with Zionism. During this trip, Einstein made stops in New York, Boston, Chicago, and Cleveland, and lectured on relativity at Princeton. And, in letters to Bohr, Bothe, Ehrenfest, and Geiger, he exchanged ideas on a unified field theory of gravitation and electromagnetism, and on the emergence of a modern theory of quantum physics.

The most recent entry in the series, **Volume 13**, contains writings and correspondence from January 1922 to March 1923. Among the questions addressed here are: Why did Einstein travel to the Far East for six months in the fall of 1922? Was it because he was acceding to an earlier invitation by Chinese and Japanese scientists to lecture on relativity? Or because the murder of his friend Walther Rathenau by ultranationalists and the subsequent threats Einstein received during his lectures at the University of Berlin compelled him to flee? Then, while lecturing in Kyoto during his trip, did Einstein in fact state that the Michelson-Morley experiment had influenced his early work on the Special Theory of Relativity? If he did, does such an admission alter our understanding of his research? Why didn't

Einstein publish his theories of superconductivity, and why did he delay publishing on gravitational lensing?

Volume 11 is an index that affords ready access to the previous 10, enhancing what is already the most authoritative source on Albert Einstein's early life. Its title: *Cumulative Index, Bibliography, List of Correspondence, Chronology, and Errata to Volumes 1–10*.

A LIVING THING

The CPAE is a living thing whose every new volume—and primary source—itsself generates further scholarship, and will no doubt continue to do so for at least the next 35 years. Among the works that have already appeared are the magisterial, four-volume *The Genesis of Relativity* (2007), edited by Jürgen Renn; *Einstein for the 21st Century* (2008), edited by Galison, Holton, and Schweber; *Einstein, His Life and Universe* (2007), edited by W. Isaacson; *Einstein in Berlin* (2003), by T. Levenson; *Einstein: The Formative Years* (2000), by D. Howard and J. Stachel; *Einstein in Love* (2000), by D. Overbye; and *Albert Einstein* (1993, 1997), by A. Fölsing.

FUTURE VOLUMES

The editors anticipate that **Volumes 14** (April 1923 to December 1924) and **15** (1925 and 1926) will include Einstein's correspondence with S. N. Bose and consequent publications on the nature of the ideal gas and its quantization; his work

on affine theory; his exchanges with Henri Bergson; his work for the German League of Human Rights and the League of Nations' International Committee on Intellectual Cooperation; and documents that point up his participation in a movement for a united Europe almost a century before the establishment of today's European Union.

The volumes that cover the years 1931 to 1933 will explore Einstein's time in Pasadena at Caltech. Einstein passed the winters of those years as a visiting scientist at the institute in the good company of astronomers and other physicists who were also revolutionizing our understanding of the universe. During this time he met often with Edwin Hubble, then at the Mount Wilson Observatory. In 1933, having left Germany for good, Einstein negotiated with Caltech for a permanent professorship. Failing this, he landed at Princeton, but like many expatriates, he was enchanted by southern California. "Here in Pasadena it is like Paradise," he said. "Always sunshine and clear air, gardens with palms and pepper trees and friendly people who smile at one and ask for autographs."

EPP Online

As the Einstein Papers Project evolves, EPP staff and collaborators are continually looking for new ways of reaching the public. In 2003, the EPP, in collaboration with the Albert Einstein Archives, launched www.alberteinstein.info, which displays 3,000 high-quality digitized images of manuscripts in the archive, both scientific and not. The website also maintains a web-based searchable database of 42,000 records that contains information on the author, receiver, dating, title, language, location, and

physical description of a document. For many items, especially where facsimiles are provided, the first line and/or content of the item appear. When applicable, the database provides information about publication in the CPAE or refers to a publication listed in the Readex bibliography.

THE EDITORIAL GROUP

The *Collected Papers of Albert Einstein* adheres to the most rigorous editorial standards set by American and European scholarly publishers. The project requires the editors to understand various areas of mathematics, and theoretical and experimental physics—especially general relativity and quantum theory; to be fluent in German and master other languages; to be historians and/or philosophers of science and masters of intellectual, political, and social European and American history.

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For inquiries or questions concerning Einstein’s life and work, reading recommendations, or requests with research assistance, please contact:

Mrs. Osik Moses/Assistant Editor/<epp@einstein.caltech.edu> or 626-395-8044. If needed, your queries can be forwarded to a specialist on our staff.

A wealth of information is available at www.alberteinstein.info.

SPONSORS

The Einstein Papers Project is sponsored by the Hebrew University of Jerusalem—where the Albert Einstein Archives resides—and Princeton University Press—publisher of the CPAE—and is supported by the California Institute of Technology. The project began in 1981 at the Institute for Advanced Study in Princeton.

“Einstein wished no monument; this monument is the one he would have accepted.”

—*International Journal of Theoretical Physics* on the Einstein Papers Project

or

“I have no special talents. I am only passionately curious.”

—Albert Einstein (1952)