

## Albert Einstein Research Papers

Einstein's Miraculous Year Five Papers That Changed the Face of Physics Princeton University Press

This volume opens in spring 1914 when Einstein takes up a research professorship at the Prussian Academy of Sciences in Berlin and closes with the collapse of the German Empire four and one-half years later. A good portion of the documentation, which comprises more than 675 letters, has only recently been discovered by the editors. The letters touch on all aspects of Einstein's activities and shed new light on his inner life, while enriching our understanding of his published papers, presented in volumes 6 and 7 of this series. The breakup of Einstein's first marriage and the divorce are presented here for the first time in all their complexity. New material shows Einstein maintaining a strong sense of moral urgency throughout the war. The scientific correspondence documents Einstein's struggle to find satisfactory field equations for his new gravitational theory--the general theory of relativity--and his continued discussion with leading physicists and mathematicians about the implications and further development of the theory.

This is the single most complete guide to Albert Einstein's life and work for students, researchers, and browsers alike. Written by three leading Einstein scholars who draw on their combined wealth of expertise gained during their work on the Collected Papers of Albert Einstein, this authoritative and accessible reference features more than one hundred entries and is divided into three parts covering the personal, scientific, and public spheres of Einstein's life. An Einstein Encyclopedia contains entries on Einstein's birth and death, family and romantic relationships, honors and awards, educational institutions where he studied and worked, citizenships and immigration to America, hobbies and travels, plus the people he befriended and the history of his archives and the Einstein Papers Project. Entries on Einstein's scientific theories provide useful background and context, along with details about his assistants, collaborators, and rivals, as well as physics concepts related to his work. Coverage of Einstein's role in public life includes entries on his Jewish identity, humanitarian and civil rights involvements, political and educational philosophies, religion, and more. Commemorating the hundredth anniversary of the theory of general relativity, An Einstein Encyclopedia also includes a chronology of Einstein's life and appendixes that provide information for further reading and research, including an annotated list of a selection of Einstein's publications and a review of selected books about Einstein. More than 100 entries cover the rich details of Einstein's personal, professional, and public life Authoritative entries explain Einstein's family relationships, scientific achievements, political activities, religious views, and more More than 40 illustrations include photos of Einstein and his circle plus archival materials A chronology of Einstein's life, appendixes, and suggestions for further reading provide essential details for further research

The first publication of Albert Einstein's travel diary to the Far East and Middle East In the fall of 1922, Albert Einstein, along with his then-wife, Elsa Einstein, embarked on a five-and-a-half-month voyage to the Far East and Middle East, regions that the renowned physicist had never visited before. Einstein's lengthy itinerary consisted of stops in Hong Kong and Singapore, two brief stays in China, a six-week whirlwind lecture tour of Japan, a twelve-day tour of Palestine, and a three-week visit to Spain. This handsome edition makes available, for the first time, the complete journal that Einstein kept on this momentous journey. The telegraphic-style diary entries--quirky, succinct, and at times irreverent—record Einstein's musings on science, philosophy, art, and politics, as well as his immediate impressions and broader thoughts on such events as his inaugural lecture at the future site of the Hebrew University in Jerusalem, a garden party hosted by the Japanese Empress, an audience with the King of Spain, and meetings with other prominent colleagues and statesmen. Entries also contain passages that reveal Einstein's stereotyping of members of various nations and raise questions about his attitudes on race. This beautiful edition features stunning facsimiles of the diary's pages, accompanied by an English translation, an extensive historical introduction, numerous illustrations, and annotations. Supplementary materials include letters, postcards, speeches, and articles, a map of the voyage, a chronology, a bibliography, and an index. Einstein would go on to keep a journal for all succeeding trips abroad, and this first volume of his travel diaries offers an initial, intimate glimpse into a brilliant mind encountering the great, wide world.

"Though Einstein is undoubtedly one of the most important figures in the history of modern science, he was in many respects marginal. Despite being one of the creators of quantum theory, he remained skeptical of it, and his major research program while in Princeton -the quest for a unified field- ultimately failed. In this book, Michael Gordin explores this paradox in Einstein's life by concentrating on a brief and often overlooked interlude: his tenure as professor of physics in Prague, from April of 1911 to the summer of 1912. Though often dismissed by biographers and scholars, it was a crucial year for Einstein both personally and scientifically: his marriage deteriorated, he began thinking seriously about his Jewish identity for the first time, he attempted a new explanation for gravitation-which though it failed had a significant impact on his later work-and he met numerous individuals, including Max Brod, Hugo Bergmann, Philipp Frank, and Arnošt Kolman, who would continue to influence him. In a kind of double-biography of the figure and the city, this book links Prague and Einstein together. Like the man, the city exhibits the same paradox of being both central and marginal to the main contours of European history. It was to become the capital of the Czech Republic but it was always, compared to Vienna and Budapest, less central in the Habsburg Empire. Moreover, it was home to a lively Germanophone intellectual and artistic scene, though the vast majority of its population spoke only Czech. By emphasizing the marginality and the centrality of both Einstein and Prague, Gordin sheds new light both on Einstein's life

and career and on the intellectual and scientific life of the city in the early twentieth century"--

This book reviews the research on Einstein's brain from a sociological perspective and in the context of the social brain paradigm. Instead of "Einstein, the genius of geniuses" standing on the shoulders of giants, Restivo proposes a concept of Einstein the social being standing on the shoulders of social networks. Rather than challenging Einstein's uniqueness or the uniqueness of his achievements, the book grounds Einstein and his achievements in a social ecology opposed to the myths of the "I," individualism, and the very idea of "genius." "Einstein" is defined by the particular configuration of social networks that he engaged as his life unfolded, not by biological inheritances.

Here are the 11 papers that forged the general and special theories of relativity: seven papers by Einstein, plus two papers by Lorentz and one each by Minkowski and Weyl. "A thrill to read again the original papers by these giants." — School Science and Mathematics. 1923 edition.

Genius demystified, the Dummies way! In 1905, Albert Einstein revolutionized modern physics with his theory of relativity. He went on to become a twentieth-century icon—a man whose name and face are synonymous with "genius." Now, at last, ordinary readers can explore Einstein's life and work in this new For Dummies guide. Physicist Carlos Calle chronicles Einstein's career and explains his work—including the theories of special and general relativity—in language that anyone can understand. He shows how Einstein's discoveries affected everything from the development of the atom bomb to the theory of quantum mechanics. He sheds light on Einstein's personal life and beliefs, including his views on religion and politics. And he shows how Einstein's work continues to affect our world today, from nuclear power to space travel to artificial intelligence.

How scientists through the ages have conducted thought experiments using imaginary entities—demons—to test the laws of nature and push the frontiers of what is possible Science may be known for banishing the demons of superstition from the modern world. Yet just as the demon-haunted world was being exorcized by the enlightening power of reason, a new kind of demon mischievously materialized in the scientific imagination itself. Scientists began to employ hypothetical beings to perform certain roles in thought experiments—experiments that can only be done in the imagination—and these impish assistants helped scientists achieve major breakthroughs that pushed forward the frontiers of science and technology. Spanning four centuries of discovery—from René Descartes, whose demon could hijack sensorial reality, to James Clerk Maxwell, whose molecular-sized demon deftly broke the second law of thermodynamics, to Darwin, Einstein, Feynman, and beyond—Jimena Canales tells a shadow history of science and the demons that bedevil it. She reveals how the greatest scientific thinkers used demons to explore problems, test the limits of what is possible, and better understand nature. Their imaginary familiars helped unlock the secrets of entropy, heredity, relativity, quantum mechanics, and other scientific wonders—and continue to inspire breakthroughs in the realms of computer science, artificial intelligence, and economics today. The world may no longer be haunted as it once was, but the demons of the scientific imagination are alive and well, continuing to play a vital role in scientists' efforts to explore the unknown and make the impossible real.

In 1903, despite the vehement objections of his parents, Albert Einstein married Mileva Maric, the companion, colleague, and confidante whose influence on his most creative years has given rise to much speculation. Beginning in 1897, after Einstein and Maric met as students

at the Swiss Federal Polytechnic, and ending shortly after their marriage, these fifty-four love letters offer a rare glimpse into Einstein's relationship with his first wife while shedding light on his intellectual development in the period before the annus mirabilis of 1905. Unlike the picture of Einstein the lone, isolated thinker of Princeton, he appears here both as the burgeoning enfant terrible of science and as an amorous young man beset, along with his fiancée, by financial and personal struggles--among them the illegitimate birth of their daughter, whose existence is known only by these letters. Describing his conflicts with professors and other scientists, his arguments with his mother over Maric, and his difficulty obtaining an academic position after graduation, the letters enable us to reconstruct the youthful Einstein with an unprecedented immediacy. His love for Maric, whom he describes as "a creature who is my equal, and who is as strong and independent as I am," brings forth his serious as well as playful, often theatrical nature. After their marriage, however, Maric becomes less his intellectual companion, and, failing to acquire a teaching certificate, she subordinates her professional goals to his. In the final letters Einstein has obtained a position at the Swiss Patent Office and mentions their daughter one last time to his wife in Hungary, where she is assumed to have placed the girl in the care of relatives. Informative, entertaining, and often very moving, this collection of letters captures for scientists and general readers alike a little known yet crucial period in Einstein's life.

After completing the final version of his general theory of relativity in November 1915, Albert Einstein wrote a book about relativity for a popular audience. His intention was 'to give an exact insight into the theory of relativity to those readers who, from a general scientific and philosophical point of view, are interested in the theory, but who are not conversant with the mathematical apparatus of theoretical physics.' The book remains one of the most lucid explanations of the special and general theories ever written. In the early 1920s alone, it was translated into ten languages, and fifteen editions in the original German appeared over the course of Einstein's lifetime. The theory of relativity enriched physics and astronomy during the 20th century.

This edition of Einstein's *On the Electrodynamics of Moving Bodies* is based on the English translation of his original 1905 German-language paper (published as *Zur Elektrodynamik bewegter Körper*, in *Annalen der Physik*. 17:891, 1905) which appeared in the book *The Principle of Relativity*, published in 1923 by Methuen and Company, Ltd. of London. Most of the papers in that collection are English translations from the German *Das Relativitätsprinzip*, 4th ed., published in 1922 by Tuebner.

For a man that would be known the world over for his genius, Albert Einstein had a rather unimpressive childhood. -- It would not be until his mid-twenties that his insight into nature and its connection with mathematics became apparent. --Working as a Swiss patent clerk, he would squirrel away his research papers in his desk and work on them when no one was looking. --During his "miracle year" of 1905, Einstein would produce four papers that would revolutionize theoretical physics. One of the masterworks would later earn him a Nobel Prize and another paper covering his Special Theory of Relativity would upset the foundations of physics set forth by Sir Isaac Newton.-- Though Einstein's professional career led to world renown, his personal life was often in shambles - a failed marriage, estrangement from his children, and his time wondering as a refugee. -- After the rise of the Nazi party in Germany, his Jewish ancestry forced him to flee to the United States with his second wife to find a new homeland.-- Einstein finished his brilliant career at the Institute for Advanced Study in Princeton working on his "theory of everything" or a unified field theory - with no success. This readable, compact biography surveys in concise terms the life and times of this towering figure. By the end of this short book, you will not only understand how the genius of Albert Einstein shaped our past, but how it continues to subtly influence the world in which we all live.

A translation of selected non-English texts included in Volume 15 is available in paperback. Since this supplementary paperback includes

only select portions of Volume 15, it is not recommended for purchase without the main volume. Every document in The Collected Papers of Albert Einstein appears in the language in which it was written, and this supplementary paperback volume presents the English translations of select portions of non-English materials in Volume 15. This translation does not include notes or annotation of the documentary volume and is not intended for use without the original language documentary edition which provides the extensive editorial commentary necessary for a full historical and scientific understanding of the documents.

In the spring of 1919, two British solar eclipse expeditions confirmed the correctness of general relativity theory and propelled Albert Einstein to instant celebrity. Before this major turning point, the majority of Einstein's writings published in this volume dealt with the clarification of general relativistic problems, such as the status of the metric field, the character of gravitational waves, the problem of energy-momentum conservation, and questions of cosmology, such as the nature and size of the universe and the distribution of matter within it. After his rise to international fame, Einstein's publications changed markedly. He faced an increasing demand for popular articles and lectures on relativity, its development and meaning. He also felt compelled to respond to a host of commentators, ranging from skeptical physicists to philosophers trying to reconcile his revolutionary theory with their views. For the first time, he also responded in print to outspoken anti-relativists, some of them fueled by cultural conservatism and, frequently, anti-Semitism. Einstein used his newly won fame to lend prestige to political causes, especially to the reconciliation among European nations and to Zionism. In the early years of Weimar Germany, Einstein spoke out vigorously for the young republic, emphasizing the rights of the individual. He agonized over the misery of the Central Europeans in the grip of starvation and economic collapse, praised the support of individuals and groups such as the Quakers, and championed the cause of Eastern European Jews. His rejection of assimilation, combined with a fierce defense of the right of Jews to higher education, led Einstein to campaign for the establishment of a university in Palestine, the land which he conceived of as a cultural center for all Jews. Since this supplementary paperback includes only select portions of Volume 7, it is not recommended for purchase without the main volume.

Albert Einstein's three-hundred most important publications are explained in this examination of his literary output, setting them into the context of his life, science, and world history to provide a unique perspective on Einstein's genius and his humanity. Volume 1 presents important new material on the young Einstein. Over half the documents made available here were discovered by the editors, including a significant group of over fifty letters that Einstein exchanged with Mileva Maric, his fellow student and future wife. These letters, together with other previously unpublished documents, provide an entirely new view of Einstein's youth. The documents in the volume also foreshadow the emergence of his extraordinary creative power. In them is manifested his intense commitment to scientific work and his interest in certain themes that proved to be central to his thinking during the next decade. We can follow, for example, the beginnings of his preoccupation with the electrodynamics of moving bodies that was to lead to the development of this special theory of relativity. For the first time it can be seen how closely he followed such contemporary developments in physics as Planck's work on radiation theory and Drude's work on the electron theory of metals. In

addition to all of Einstein's known correspondence and other writings from this period, the volume includes the relevant portions of all third-party letters and other contemporary documents that provide additional information about his secondary schooling at the Aargau Cantonal School; his four years at the Swiss Federal Polytechnical School, or the ETH; and his search for a job after graduation. Included in the volume are those sections of an unpublished biography by Einstein's sister, Maja Winteler-Einstein, which deal with his early years; his extensive notes on a physics course he took at the ETH; and previously unpublished photographs of the young Einstein and his teachers and friends. Documents in Volume 1 portray Einstein's experiences during the two stressful years after his graduation from the ETH in Zurich. Denied a position as an Assistant at the ETH, he lived a hand-to-mouth existence while he looked for a post at other universities; then he attempted to find a secondary-school post, and finally sought a nonacademic job. Tension with his parents over his plans to marry Mileva Maric is evident throughout this period. With the help of a friend, he finally found work at the Swiss Patent Office, the haven where he would spend the next seven years. Freed from his financial worries, he entered on one of the most productive periods of his life, as the next volume, *Writings (1901-1910)*, will document.

Exploring the ferocious opposition which once surrounded the theory of relativity, this fascinating account details the strategies and motivations of Einstein's detractors. A unique insight into the dynamics of scientific controversies, ideal for anyone interested in the history and philosophy of physics, popular science, and the public understanding of science.

“The eternal mystery of the world is its comprehensibility ... The fact that it is comprehensible is a miracle.” —Albert Einstein, 1936

Albert Einstein's universal appeal is only partially explained by his brilliant work in physics, as Andrew Robinson demonstrates in this authoritative, accessible, and richly illustrated biography. The main narrative is enriched by twelve essays by well-known scientists, scholars, and artists, including three Nobel Laureates. The book presents clearly the beautiful simplicity at the heart of Einstein's greatest discoveries, and explains how his ideas have continued to influence scientific developments such as lasers, the theory of the big bang, and “theories of everything.” Einstein's life and activities outside of science are also considered, including his encounters with famous contemporaries such as Chaplin, Roosevelt, and Tagore, his love of music, and his troubled family life. The book recognizes that Einstein's striking originality was expressed in many ways, from his political and humanitarian campaigns against nuclear weapons, anti-Semitism, McCarthyism, and social injustices, to his unconventional personal appearance. Published in association with the Albert Einstein Archives at the Hebrew University of Jerusalem, the book draws on this exceptional resource of Einstein's private papers and personal photographs. This new edition, published to recognize the centenary of the publication of Einstein's General Theory of Relativity, includes an important new afterword by Diana Kormos Buchwald, the director of the Einstein Papers Project at the California Institute of Technology. The contributors are Philip Anderson, Arthur C. Clarke, I. Bernard Cohen, Freeman Dyson, Philip Glass, Stephen Hawking, Max Jammer, Diana Kormos Buchwald, João Magueijo, Joseph Rotblat, Robert Schulmann, and Steven Weinberg.

Modesty, humor, compassion, and wisdom are the traits most evident in this illuminating selection of personal papers from the

Albert Einstein Archives. The illustrious physicist wrote as thoughtfully to an Ohio fifth-grader, distressed by her discovery that scientists classify humans as animals, as to a Colorado banker who asked whether Einstein believed in a personal God. Witty rhymes, an exchange with Queen Elizabeth of Belgium about fine music, and expressions of his devotion to Zionism are but some of the highlights found in this warm and enriching book.

Was Einstein's first wife his uncredited coauthor, unpaid assistant, or his unacknowledged helpmeet? The real “Mileva Story.” Albert Einstein's first wife, Mileva Einstein-Mari?, was forgotten for decades. When a trove of correspondence between them beginning in their student days was discovered in 1986, her story began to be told. Some of the tellers of the “Mileva Story” made startling claims: that she was a brilliant mathematician who surpassed her husband, and that she made uncredited contributions to his most celebrated papers in 1905, including his paper on special relativity. This book, based on extensive historical research, uncovers the real “Mileva Story.” Mileva was one of the few women of her era to pursue higher education in science; she and Einstein were students together at the Zurich Polytechnic. Mileva's ambitions for a science career, however, suffered a series of setbacks—failed diploma examinations, a disagreement with her doctoral dissertation adviser, an out-of-wedlock pregnancy by Einstein. She and Einstein married in 1903 and had two sons, but the marriage failed. Was Mileva her husband's uncredited coauthor, unpaid assistant, or his essential helpmeet? It's tempting to believe that she was her husband's secret collaborator, but the authors of *Einstein's Wife* look at the actual evidence, and a chapter by Ruth Lewin Sime offers important historical context. The story they tell is that of a brave and determined young woman who struggled against a variety of obstacles at a time when science was not very welcoming to women.

Five extraordinary papers by Albert Einstein that transformed physics, edited and introduced by John Stachel and with a foreword by Nobel laureate Roger Penrose After 1905, Einstein's miraculous year, physics would never be the same again. In those twelve months, Einstein shattered many cherished scientific beliefs with five extraordinary papers that would establish him as the world's leading physicist. This book brings those papers together in an accessible format. The best-known papers are the two that founded special relativity: *On the Electrodynamics of Moving Bodies* and *Does the Inertia of a Body Depend on Its Energy Content?* In the former, Einstein showed that absolute time had to be replaced by a new absolute: the speed of light. In the second, he asserted the equivalence of mass and energy, which would lead to the famous formula  $E = mc^2$ . The book also includes *On a Heuristic Point of View Concerning the Production and Transformation of Light*, in which Einstein challenged the wave theory of light, suggesting that light could also be regarded as a collection of particles. This helped to open the door to a whole new world—that of quantum physics. For ideas in this paper, he won the Nobel Prize in 1921. The fourth paper also led to a Nobel Prize, although for another scientist, Jean Perrin. *On the Movement of Small Particles Suspended in Stationary Liquids Required by the Molecular-Kinetic Theory of Heat* concerns the Brownian motion of such particles. With profound insight, Einstein blended ideas from kinetic theory and classical hydrodynamics to derive an equation for the mean free path of such particles as a function of the time, which Perrin confirmed experimentally. The fifth paper, *A New Determination of Molecular Dimensions*, was

Einstein's doctoral dissertation, and remains among his most cited articles. It shows how to calculate Avogadro's number and the size of molecules. These papers, presented in a modern English translation, are essential reading for any physicist, mathematician, or astrophysicist. Far more than just a collection of scientific articles, this book presents work that is among the high points of human achievement and marks a watershed in the history of science. Coinciding with the 100th anniversary of the miraculous year, this new paperback edition includes an introduction by John Stachel, which focuses on the personal aspects of Einstein's youth that facilitated and led up to the miraculous year.

The Authorized Albert Einstein Archives Edition: An homage to the men and women of science, and an exposition of Einstein's place in scientific history. In this fascinating collection of articles and speeches, Albert Einstein reflects not only on the scientific method at work in his own theoretical discoveries, but also eloquently expresses a great appreciation for his scientific contemporaries and forefathers, including Johannes Kepler, Isaac Newton, James Clerk Maxwell, Max Planck, and Niels Bohr. While Einstein is renowned as one of the foremost innovators of modern science, his discoveries uniquely his own, through his own words it becomes clear that he viewed himself as only the most recent in a long line of scientists driven to create new ways of understanding the world and to prove their scientific theories. Einstein's thoughtful examinations explain the "how" of scientific innovations both in his own theoretical work and in the scientific method established by those who came before him. This authorized ebook features a new introduction by Neil Berger, PhD, and an illustrated biography of Albert Einstein, which includes rare photos and never-before-seen documents from the Albert Einstein Archives at the Hebrew University of Jerusalem.

The physicist and humanitarian took his place beside the great teachers with the publication of *Relativity: The Special and General Theory*, Einstein's own popular translation of the physics that shaped our "truths" of space and time.

In this volume, Einstein aims to give a field-theoretic foundation for the electron's equations of motion as he embarks on a new approach to unified field theory founded on teleparallel geometry. Einstein attends the historic 1927 Solvay meeting on the new quantum mechanics, and publishes a patent for a novel refrigerator. While less politically en

In *Einstein in Love*, Dennis Overbye has written the first profile of the great scientist to focus exclusively on his early adulthood, when his major discoveries were made. It reveals Einstein to be very much a young man of his time—draft dodger, self-styled bohemian, poet, violinist, and cocky, charismatic genius who left personal and professional chaos in his wake. Drawing upon hundreds of unpublished letters and a decade of research, *Einstein in Love* is a penetrating portrait of the modern era's most influential thinker.

NOW A MAJOR SERIES 'GENIUS' ON NATIONAL GEOGRAPHIC, PRODUCED BY RON HOWARD AND STARRING GEOFFREY RUSH Einstein is the great icon of our age: the kindly refugee from oppression whose wild halo of hair, twinkling eyes, engaging humanity and extraordinary brilliance made his face a symbol and his name a synonym for genius. He was a rebel and nonconformist from boyhood days. His character, creativity and imagination were related, and they drove both his life and his science. In this marvellously clear and accessible narrative, Walter Isaacson explains how his mind worked and the mysteries of

the universe that he discovered. Einstein's success came from questioning conventional wisdom and marvelling at mysteries that struck others as mundane. This led him to embrace a worldview based on respect for free spirits and free individuals. All of which helped make Einstein into a rebel but with a reverence for the harmony of nature, one with just the right blend of imagination and wisdom to transform our understanding of the universe. This new biography, the first since all of Einstein's papers have become available, is the fullest picture yet of one of the key figures of the twentieth century. This is the first full biography of Albert Einstein since all of his papers have become available -- a fully realised portrait of this extraordinary human being, and great genius. Praise for EINSTEIN by Walter Isaacson:- 'YOU REALLY MUST READ THIS.' Sunday Times 'As pithy as Einstein himself.' New Scientist '[A] brilliant biography, rich with newly available archival material.' Literary Review 'Beautifully written, it renders the physics understandable.' Sunday Telegraph 'Isaacson is excellent at explaining the science.' Daily Express

Albert Einstein and J. Robert Oppenheimer, two iconic scientists of the twentieth century, belonged to different generations, with the boundary marked by the advent of quantum mechanics. By exploring how these men differed—in their worldview, in their work, and in their day—this book provides powerful insights into the lives of two critical figures and into the scientific culture of their times. For Einstein, 1905 was a remarkable year. It was also a miraculous year for the history and future of science. In six short months, he published five papers that would transform our understanding of nature. This unparalleled period is the subject of Rigden's book, which deftly explains what distinguishes 1905 from all other years in the annals of science, and elevates Einstein above all other scientists of the twentieth century.

Subtle is the Lord is widely recognized as the definitive scientific biography of Albert Einstein. The late Abraham Pais was a distinguished physicist turned historian who knew Einstein both professionally and personally in the last years of his life. His biography combines a profound understanding of Einstein's work with personal recollections from their years of acquaintance, illuminating the man through the development of his scientific thought. Pais examines the formulation of Einstein's theories of relativity, his work on Brownian motion, and his response to quantum theory with authority and precision. The profound transformation Einstein's ideas effected on the physics of the turn of the century is here laid out for the serious reader. Pais also fills many gaps in what we know of Einstein's life - his interest in philosophy, his concern with Jewish destiny, and his opinions of great figures from Newton to Freud. This remarkable volume, written by a physicist who mingled in Einstein's scientific circle, forms a timeless and classic biography of the towering figure of twentieth-century science.

A translation of selected non-English texts included in Volume 16 is available in paperback. Since this supplementary paperback includes only select portions of Volume 16, it is not recommended for purchase without the main volume. Every document in The Collected Papers of Albert Einstein appears in the language in which it was written, and this supplementary paperback volume presents the English translations of select portions of non-English materials in Volume

16. This translation does not include notes or annotations of the documentary volume and is not intended for use without the original language documentary edition, which provides the extensive editorial commentary necessary for a full historical and scientific understanding of the documents.

This indispensable volume contains a compendium of articles covering a vast range of topics in physics which were begun or influenced by the works of Albert Einstein: special relativity, quantum theory, statistical physics, condensed matter physics, general relativity, geometry, cosmology and unified field theory. An essay on the societal role of Einstein is included. These articles, written by some of the renowned experts, offer an insider's view of the exciting world of fundamental science. Sample Chapter(s). Chapter 1: Einstein and the Search for Unification (625 KB). Contents: Einstein and the Search for Unification (D Gross); Einstein and Geometry (M Atiyah); String Theory and Einstein's Dream (A Sen); Black Hole Entropy in String Theory: A Window into the Quantum Structure of Gravity (A Dabholkar); The Winding Road to Quantum Gravity (A Ashtekar); Brownian Functionals in Physics and Computer Science (S N Majumdar); Bose-Einstein Condensation: Where Many Become One and So There is Plenty of Room at the Bottom (N Kumar); Many Electrons Strongly Avoiding Each Other: Strange Goings On (T V Ramakrishnan); Einstein and the Quantum (V Singh); Einstein's Legacy: Relativistic Cosmology (J V Narlikar); Einstein's Universe: The Challenge of Dark Energy (S Sarkar); Gravitational Radiation OCo In Celebration of Einstein's Annus Mirabilis (B S Sathyaprakash); Albert Einstein: Radical Pacifist and Democrat (T Jayaraman). Readership: Physicists, mathematicians and academics."

On their 100th anniversary, the story of the extraordinary scientific expeditions that ushered in the era of relativity In 1919, British scientists led extraordinary expeditions to Brazil and Africa to test Albert Einstein's revolutionary new theory of general relativity in what became the century's most celebrated scientific experiment. The result ushered in a new era and made Einstein a global celebrity by confirming his dramatic prediction that the path of light rays would be bent by gravity. Today, Einstein's theory is scientific fact. Yet the effort to "weigh light" by measuring the gravitational deflection of starlight during the May 29, 1919, solar eclipse has become clouded by myth and skepticism. Could Arthur Eddington and Frank Dyson have gotten the results they claimed? Did the pacifist Eddington falsify evidence to foster peace after a horrific war by validating the theory of a German antiwar campaigner? In No Shadow of a Doubt, Daniel Kennefick provides definitive answers by offering the most comprehensive and authoritative account of how expedition scientists overcame war, bad weather, and equipment problems to make the experiment a triumphant success. The reader follows Eddington on his voyage to Africa through his letters home, and delves with Dyson into how the complex experiment was accomplished, through his notes. Other characters include Howard Grubb, the brilliant Irishman who made the instruments; William Campbell, the American astronomer who confirmed the result; and Erwin Findlay-Freundlich, the

German whose attempts to perform the test in Crimea were foiled by clouds and his arrest. By chronicling the expeditions and their enormous impact in greater detail than ever before, No Shadow of a Doubt reveals a story that is even richer and more exciting than previously known.

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