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Best known for his general theory of relativity and the famous equation linking mass and energy, $E = mc^2$, Albert Einstein had a lasting impact on the world of science, the extent of which is illuminated—along with his fascinating life and unique personality—in this lively history. In addition to learning all about Einstein's important contributions to science, from proving the existence and size of atoms and launching the field of quantum mechanics to creating models of the universe that led to the discovery of black holes and the big bang theory, young physicists will participate in activities and thought experiments to bring his theories and ideas to life. Such activities include using dominoes to model a nuclear chain reaction, replicating the expanding universe in a microwave oven, creating blue skies and red sunsets in a soda bottle, and calculating the speed of light using a melted chocolate bar. Suggestions for further study, a time line, and sidebars on the work of other physicists of the day make this an incredibly accessible resource for inquisitive children.

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

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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.

In 1915, Albert Einstein presented his masterwork to the Prussian Academy of Sciences, a theory of gravity, matter, space and time: the General Theory of Relativity. Einstein himself said it was "the most valuable theory of my life," and "of incomparable beauty." It describes the evolution of the universe, black holes, the behavior of orbiting neutron stars, and why clocks run slower on the surface of the earth than in space. It even suggests the possibility of time travel. And yet when we think of Einstein's breakthrough year, we think instead of 1905, the year of Einstein's Special Theory of Relativity and his equation $E=mc^2$, as his annus mirabilis, even though the Special Theory has a narrower focus. Today the General Theory is overshadowed by these achievements, regarded as "too difficult" for ordinary mortals to comprehend. In Einstein's Masterwork, John Gribbin puts Einstein's astonishing breakthrough in the context of his life and work, and makes it clear why his greatest year was indeed 1915 and his General Theory his true masterpiece.

Albert Einstein's restless intelligence drove him to

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ponder the biggest topics the universe has to offer: light, time, mass, energy, and more. His conclusions changed the way people thought about the laws of physics. But first, he had to pass his university entrance exams. This graphic biography traces Einstein's path from his home country of Germany to his studies in Switzerland to his time in the United States. It also follows his life as an international scientific celebrity and his refusal to stay silent in the face of anti-Semitism.

An astrophysicist offers an entertaining introduction to Einstein's theories, explaining how well they have held up to rigorous testing over the years, and even describing the amazing phenomena readers would actually experience if they took a trip through a black hole.

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.

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Neil deGrasse Tyson's #1 New York Times best-selling guide to the cosmos, adapted for young readers. From the basics of physics to big questions about the nature of space and time, celebrated astrophysicist and science communicator Neil deGrasse Tyson breaks down the mysteries of the cosmos into bite-sized pieces.

Astrophysics for Young People in a Hurry describes the fundamental rules and unknowns of our universe clearly—and with Tyson's characteristic wit, there's a lot of fun thrown in, too. This adaptation by Gregory Mone includes full-color photos, infographics, and extra explanations to make even the trickiest concepts accessible. Building on the wonder inspired by outer space, *Astrophysics for Young People in a Hurry* introduces an exciting field and the principles of scientific inquiry to young readers.

Take a journey through time with an author who understands the politics, intrigue, and human nature of science inquiry. Be prepared to spend hours of delightful reading learning about everything you wanted to know about the quantum world, physics, and relativity.

A thrilling adventure story chronicling the perilous journey of the scientists who set out to prove the theory of relativity--the results of which catapulted Albert Einstein to fame and forever changed our understanding of the universe. In 1911, a relatively unknown physicist named Albert Einstein published his preliminary theory of gravity. But it hadn't been tested. To do that, he needed a photograph of starlight as it passed the sun during a total solar

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eclipse. So began a nearly decade-long quest by seven determined astronomers from observatories in four countries, who traveled the world during five eclipses to capture the elusive sight. Over the years, they faced thunderstorms, the ravages of a world war, lost equipment, and local superstitions. Finally, in May of 1919, British expeditions to northern Brazil and the island of Príncipe managed to photograph the stars, confirming Einstein's theory. At its heart, this is a story of frustration, faith, and ultimate victory--and of the scientists whose efforts helped build the framework for the big bang theory, catapulted Einstein to international fame, and shook the foundation of physics.

Einstein's Jury is the dramatic story of how astronomers in Germany, England, and America competed to test Einstein's developing theory of relativity. Weaving a rich narrative based on extensive archival research, Jeffrey Crelinsten shows how these early scientific debates shaped cultural attitudes we hold today. The book examines Einstein's theory of general relativity through the eyes of astronomers, many of whom were not convinced of the legitimacy of Einstein's startling breakthrough. These were individuals with international reputations to uphold and benefactors and shareholders to please, yet few of them understood the new theory coming from the pen of Germany's up-and-coming theoretical physicist,

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Albert Einstein. Some tried to test his theory early in its development but got no results. Others--through toil and hardship, great expense, and perseverance--concluded that it was wrong. A tale of international competition and intrigue, Einstein's Jury brims with detail gleaned from Crelinsten's far-reaching inquiry into the history and development of relativity. Crelinsten concludes that the well-known British eclipse expedition of 1919 that made Einstein famous had less to do with the scientific acceptance of his theory than with his burgeoning public fame. It was not until the 1920s, when the center of gravity of astronomy and physics shifted from Europe to America, that the work of prestigious American observatories legitimized Einstein's work. As Crelinsten so expertly shows, the glow that now surrounds the famous scientist had its beginnings in these early debates among professional scientists working in the glare of the public spotlight.

An annotated facsimile edition of Einstein's handwritten manuscript on the foundations of general relativity This richly annotated facsimile edition of "The Foundation of General Relativity" introduces a new generation of readers to Albert Einstein's theory of gravitation. Written in 1915, this remarkable document is a watershed in the history of physics and an enduring testament to the elegance and precision of Einstein's thought. Presented here is a beautiful facsimile of Einstein's original

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handwritten manuscript, along with its English translation and an insightful page-by-page commentary that places the work in historical and scientific context. Hanoach Gutfreund and Jürgen Renn's concise introduction traces Einstein's intellectual odyssey from special to general relativity, and their essay "The Charm of a Manuscript" provides a delightful meditation on the varied afterlife of Einstein's text. Featuring a foreword by John Stachel, this handsome edition also includes a biographical glossary of the figures discussed in the book, a comprehensive bibliography, suggestions for further reading, and numerous photos and illustrations throughout.

BY W.H. MCCREA, F.R.S. 'THE only justification for our concepts and system of concepts is that they serve to represent the complex of our experiences; beyond this they have no legitimacy.' So Einstein writes on page 2 of this book. Most present-day physicists would agree, and many before Einstein must have held the same opinion. Einstein, however, put the opinion into practice to better purpose than any physicist before him. And for Einstein it evidently meant what it means for most of us today: a theory is the construction of a theoretical model of the world of physics; all the mathematical discussion applies to the model; the model embodies the 'system of concepts', and it serves 'to represent the complex of our experiences' if the experience of the theoretical

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observer in the theoretical model can be put into satisfactory correspondence with the experience of the actual observer in the actual physical world. Classical mechanics and classical electromagnetism provide models that are good representations of two sets of actual experiences. As Einstein was the first fully to appreciate, however, it is not possible to combine these into a single self-consistent model. The construction of the simplest possible self-consistent model is the achievement of Einstein's theory of special relativity. The theory is found, in particular, to give a satisfactory representation of the electromagnetic interaction between charged particles through its use of the concept of the electromagnetic field.

Understand how Einstein came to write the most famous equation in history and see how the world was changed forever. Broken into 10 bite-sized chapters, this step-by-step journey through Einstein's mind takes his original manuscripts and makes them accessible to budding scientists everywhere.

A quirky, funny, and accessible blend of science and art that delves into the heart of Einstein's theory of relativity It was a link to his 1905 paper--an early attempt at explaining his revolutionary ideas on space, time, and matter--that drew Tanya Bub into Albert Einstein's imaginative vision of the world. What particularly struck her was how Einstein interwove words and math to create clear visuals

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illustrating his theories. As an artist, she naturally started doodling as she worked her way through his concepts, creating drawings that intuitively demonstrated Einstein's core principles. In *Reimagining Time* Tanya Bub teams up with her father, the distinguished physicist Jeffrey Bub, to create a quirky and accessible take on one of science's most revolutionary discoveries. Blending original art and text, they guide readers through Einstein's theory of special relativity to expose truths about our universe: time is relative, lengths get shorter with motion, energy and mass are interchangeable, and the Universe has a speed limit. Ron Cowen offers a sweeping account of the century of experimentation that has consistently confirmed Einstein's general theory of relativity. He shows how we got from Eddington's pivotal observations of the 1919 eclipse to the Event Horizon Telescope, aimed at starlight wrapping around the black hole at our galaxy's center.

An illustrated, large-format edition of the best-seller has been expanded to encompass the remarkable advances that have occurred in science and technology over the past eight years, with a new chapter on Wormholes and Time Travel and more than 240 full-color, captioned illustrations. 100,000 first printing.

Pre-publication subtitle: The birth of relativity amid the vicious nationalism of World War I.

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The theory of relativity, explained by the greatest mind of the 20th century. Albert Einstein discusses the special and general theories of relativity, and the core concepts of modern cosmology, including time dilation, the spacetime continuum, and the energy-mass relationship, in simple non-mathematical terms.

Semi-technical account includes a review of classical physics (origin of space and time measurements, Ptolemaic and Copernican astronomy, laws of motion, inertia, more) and of Einstein's theories of relativity.

Several distinguished scientists explain and expand upon the theory that revolutionized scientific theory, defining gravity and the meaning of relativity and assessing the theory's impact on various scientific disciplines

Albert Einstein's theory of general relativity describes the effect of gravitation on the shape of space and the flow of time. But for more than four decades after its publication, the theory remained largely a curiosity for scientists; however accurate it seemed, Einstein's mathematical code—represented by six interlocking equations—was one of the most difficult to crack in all of science. That is, until a twenty-nine-year-old Cambridge graduate solved the great riddle in 1963. Roy Kerr's solution emerged coincidentally with the discovery of black holes that same year and provided fertile testing ground—at

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long last—for general relativity. Today, scientists routinely cite the Kerr solution, but even among specialists, few know the story of how Kerr cracked Einstein's code. Fulvio Melia here offers an eyewitness account of the events leading up to Kerr's great discovery. *Cracking the Einstein Code* vividly describes how luminaries such as Karl Schwarzschild, David Hilbert, and Emmy Noether set the stage for the Kerr solution; how Kerr came to make his breakthrough; and how scientists such as Roger Penrose, Kip Thorne, and Stephen Hawking used the accomplishment to refine and expand modern astronomy and physics. Today more than 300 million supermassive black holes are suspected of anchoring their host galaxies across the cosmos, and the Kerr solution is what astronomers and astrophysicists use to describe much of their behavior. By unmasking the history behind the search for a real world solution to Einstein's field equations, Melia offers a first-hand account of an important but untold story. Sometimes dramatic, often exhilarating, but always attuned to the human element, *Cracking the Einstein Code* is ultimately a showcase of how important science gets done. A Nobel Prize-winning physicist explains the historical background and scientific principles of Einstein's famous theory. Even the youngest science enthusiasts know the name "Einstein." To them, it represents intelligence

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and ingenuity. But they may not know much about Albert Einstein as a man and why his fame reached such great heights. In this comprehensive biography, which draws on new research and personal documents, accessible text tells the fascinating story of Einstein's life, including his early years in Germany, his achievements that led to the Nobel Prize, and his role in the development of the atomic bomb. Plentiful photographs, explanatory diagrams, and illuminating sidebars add to the reader's experience, helping to reveal the person and the genius behind the name.

Three captivating volumes reveal how Einstein viewed both the physical universe and the everyday world in which he lived. A century after his theory of general relativity shook the foundations of the scientific world, Albert Einstein's name is still synonymous with genius. This collection is an introduction to one of the world's greatest minds. Essays in Humanism Nuclear proliferation, Zionism, and the global economy are just a few of the insightful and surprisingly prescient topics scientist Albert Einstein discusses in this volume of collected essays from between 1931 and 1950. With a clear voice and a thoughtful perspective on the effects of science, economics, and politics in daily life, Einstein's essays provide an intriguing view inside the mind of a genius as he addresses the philosophical challenges presented during the

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turbulence of the Great Depression, World War II, and the dawn of the Cold War. The Theory of Relativity and Other Essays $E=mc^2$ may be Einstein's most well-known contribution to modern science. Now, on the one-hundredth anniversary of the theory of general relativity, discover the thought process behind this famous equation. In this collection of his seven most important essays on physics, Einstein guides his reader through the many layers of scientific theory that formed a starting point for his discoveries. By both supporting and refuting the theories and scientific efforts of his predecessors, he reveals the origins and meaning of such significant topics as physics and reality, the fundamentals of theoretical physics, the common language of science, the laws of science and of ethics, and an elementary derivation of the equivalence of mass and energy. This remarkable collection, authorized by the Albert Einstein archives, allows the non-scientist to understand not only the significance of Einstein's masterpiece, but also the brilliant mind behind it. *The World As I See It* Authorized by the Albert Einstein Archives, this is a fascinating collection of observations about life, religion, nationalism, and a host of personal topics that engaged the intellect of one of the world's greatest minds. In the aftermath of World War I, Einstein writes about his hopes for the League of Nations, his feelings as a German citizen about the

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growing anti-Semitism and nationalism of his country, and his opinions about the current affairs of his day. In addition to these political perspectives, *The World As I See It* reveals the idealistic, spiritual, and witty side of this great intellectual as he approaches topics including “Good and Evil,” “Religion and Science,” “Active Pacifism,” “Christianity and Judaism,” and “Minorities.” Including letters, speeches, articles and essays written before 1935, this collection offers a complete portrait of Einstein as a humanitarian and as a human being trying to make sense of the changing world around him. This authorized ebook features new introductions by Neil Berger 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.

Traces the life and work of the physicist whose theory of relativity revolutionized scientific thinking.

Albert Einstein is often viewed as the icon of genius, and his theories are admired for their beauty and correctness. Yet the final judge of any theory is the rigorous test of experiment, not the fame of its inventor or the allure of its mathematics. For decades, general relativity has passed test after test with flying colors, including some remarkable new tests using the recently detected gravitational waves. Still, there are reasons for doubt. Einstein's theory of gravity, as beautiful as it is, seems to be in direct contradiction with another theory he helped create: quantum mechanics. Until recently, this was considered to be a purely academic affair. But as more and

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more data pour in from the most distant corners of the universe, hinting at bizarre stuff called "dark energy" and "dark matter," some scientists have begun to explore the possibility that Einstein's theory may not provide a complete picture of the cosmos. This book chronicles the latest adventures of scientists as they put Einstein's theory to the test in ever more precise and astonishing ways, and in ever more extreme situations, when gravity is unfathomably intense and rapidly churning. From the explosions of neutron stars and the collisions of black holes to the modern scientific process as a means to seek truth and understanding in the cosmos, this book takes the reader on a journey of learning and discovery that has been 100 years in the making.

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.

Einstein's Theory of General Relativity, is a milestone for scientific discoveries and future achievements. Very few advancements to the theory have been made since its inception and it remains proven by modern scientific methods. It has also led to special applications and a better understanding of space-time, matter, energy, celestial mechanics and the entire universe

In 1921, five years after the appearance of his comprehensive paper on general relativity and twelve years before he left Europe permanently to join the Institute for Advanced Study, Albert Einstein visited Princeton University, where he delivered the Stafford Little Lectures for that year. These four lectures constituted an overview of his then-

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controversial theory of relativity. Princeton University Press made the lectures available under the title *The Meaning of Relativity*, the first book by Einstein to be produced by an American publisher. As subsequent editions were brought out by the Press, Einstein included new material amplifying the theory. A revised version of the appendix "Relativistic Theory of the Non-Symmetric Field," added to the posthumous edition of 1956, was Einstein's last scientific paper.

One of TIME's Ten Best Nonfiction Books of the Decade "Meet the new Stephen Hawking . . . The Order of Time is a dazzling book." --The Sunday Times From the bestselling author of *Seven Brief Lessons on Physics*, *Reality Is Not What It Seems*, and *Helgoland*, comes a concise, elegant exploration of time. Why do we remember the past and not the future? What does it mean for time to "flow"? Do we exist in time or does time exist in us? In lyric, accessible prose, Carlo Rovelli invites us to consider questions about the nature of time that continue to puzzle physicists and philosophers alike. For most readers this is unfamiliar terrain. We all experience time, but the more scientists learn about it, the more mysterious it remains. We think of it as uniform and universal, moving steadily from past to future, measured by clocks. Rovelli tears down these assumptions one by one, revealing a strange universe where at the most fundamental level time disappears. He explains how the theory of quantum gravity attempts to understand and give meaning to the resulting extreme landscape of this timeless world. Weaving together ideas from philosophy, science and literature, he suggests that our perception of the flow of time depends on our perspective, better understood starting from the structure of our brain and emotions than from the physical universe. Already a bestseller in Italy, and written with the poetic vitality that made *Seven Brief Lessons on Physics* so appealing, *The Order of Time* offers a profoundly intelligent, culturally rich,

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novel appreciation of the mysteries of time.

“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.

The physicist and humanitarian took his place beside the

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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.

An authoritative interdisciplinary account of the historic discovery of gravitational waves In 1915, Albert Einstein predicted the existence of gravitational waves—ripples in the fabric of spacetime caused by the movement of large masses—as part of the theory of general relativity. A century later, researchers with the Laser Interferometer Gravitational-Wave Observatory (LIGO) confirmed Einstein's prediction, detecting gravitational waves generated by the collision of two black holes.

Shedding new light on the hundred-year history of this momentous achievement, *Einstein Was Right* brings together essays by two of the physicists who won the Nobel Prize for their instrumental roles in the discovery, along with contributions by leading scholars who offer unparalleled insights into one of the most significant scientific breakthroughs of our time. This illuminating book features an introduction by Tilman Sauer and invaluable firsthand perspectives on the history and significance of the LIGO consortium by physicists Barry Barish and Kip Thorne. Theoretical physicist Alessandra Buonanno discusses the new possibilities opened by gravitational wave astronomy, and sociologist of science Harry Collins and historians of science Diana Kormos Buchwald, Daniel Kennefick, and

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Jürgen Renn provide further insights into the history of relativity and LIGO. The book closes with a reflection by philosopher Don Howard on the significance of Einstein's theory for the philosophy of science. Edited by Jed Buchwald, *Einstein Was Right* is a compelling and thought-provoking account of one of the most thrilling scientific discoveries of the modern age.

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

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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. Black holes may obliterate most things that come near them, but they saved the theory of general relativity. Einstein's theory was quickly accepted as the true theory of gravity after its publication in 1915, but soon took a back seat in physics to quantum mechanics and languished for decades on the blackboards of mathematicians. Not until the existence of black holes by Stephen Hawking and Roger Penrose in the 1960s, after Einstein's death, was the theory revived. Almost one hundred years after general relativity replaced Newton's theory of gravitation, *The Curious History of Relativity* tells the story of both events surrounding general relativity and the techniques employed by Einstein and the relativists to construct, develop, and understand his almost impenetrable theory. Jean Eisenstaedt, one of the world's leading experts on the subject, also discusses the theory's place in the evolution of

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twentieth-century physics. He describes the main stages in the development of general relativity: its beginnings, its strange crossing of the desert during Einstein's lifetime while under heated criticism, and its new life from the 1960s on, when it became vital to the understanding of black holes and the observation of exotic objects, and, eventually, to the discovery of the accelerating universe. We witness Einstein's construction of his theory, as well as the work of his fascinated, discouraged, and enthusiastic colleagues--physicists, mathematicians, and astronomers. Written with flair, *The Curious History of Relativity* poses--and answers--the difficult questions raised by Einstein's magnificent intellectual feat.

An analysis of one of the three great papers Einstein published in 1905, each of which was to alter forever the field it dealt with. The second of these papers, "On the Electrodynamics of Moving Bodies", established what Einstein sometimes referred to as the "so-called Theory of Relativity". Miller uses the paper to provide a window on the intense intellectual struggles of physicists in the first decade of the 20th century: the interplay between physical theory and empirical data; the fiercely held notions that could not be articulated clearly or verified experimentally; the great intellectual investment in existing theories, data, and interpretations - and associated intellectual inertia - and the drive to the long-sought-for

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unification of the sciences. Since its original publication, this book has become a standard reference and sourcebook for the history and philosophy of science; however, it can equally well serve as a text on twentieth-century philosophy. This book pieces together the jigsaw puzzle of Einstein's journey to discovering the special theory of relativity. Between 1902 and 1905, Einstein sat in the Patent Office and may have made calculations on old pieces of paper that were once patent drafts. One can imagine Einstein trying to hide from his boss, writing notes on small sheets of paper, and, according to reports, seeing to it that the small sheets of paper on which he was writing would vanish into his desk-drawer as soon as he heard footsteps approaching his door. He probably discarded many pieces of papers and calculations and flung them in the waste paper basket in the Patent Office. The end result was that Einstein published nothing regarding the special theory of relativity prior to 1905. For many years before 1905, he had been intensely concerned with the topic; in fact, he was busily working on the problem for seven or eight years prior to 1905. Unfortunately, there are no surviving notebooks and manuscripts, no notes and papers or other primary sources from this critical period to provide any information about the crucial steps that led Einstein to his great discovery. In May 1905, Henri Poincaré sent three letters to Hendrik

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Lorentz at the same time that Einstein wrote his famous May 1905 letter to Conrad Habicht, promising him four works, of which the fourth one, Relativity, was a rough draft at that point. In the May 1905 letters to Lorentz, Poincaré presented the basic equations of his 1905 “Dynamics of the Electron”, meaning that, at this point, Poincaré and Einstein both had drafts of papers relating to the principle of relativity. The book discusses Einstein’s and Poincaré’s creativity and the process by which their ideas developed. The book also explores the misunderstandings and paradoxes apparent in the theory of relativity, and unravels the subtleties and creativity of Einstein.

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