

The Making Of The Atomic Bomb 25th Anniversary Edition

A graphic novel account of the race to construct the first atomic bomb and the decision to drop it, tracing the early research, the heated debates, and profiles of forefront Manhattan Project contributors.

Richard Rhodes's 1986 Pulitzer Prize-winning book *The Making of the Atomic Bomb* narrates the years preceding the Hiroshima and Nagasaki bombings. It focuses on how a group of international physicists uncovered nature's potential for destruction through advances in nuclear physics and quantum theory. They harnessed the power of physics to develop the first atomic bombs...

Purchase this in-depth summary to learn more.

During World War II, nations raced to construct the world's first nuclear weapon that would determine the future of the world. The Manhattan Project, one of the most significant achievements of the 20th century, was the culmination of America's war effort. Today, although the issue of nuclear weapons frequently dominates world politics, few are aware of the history behind its development. Part I of this book, comprised of papers from the Atomic Heritage Foundation's Symposium on the Manhattan Project, recounts the history of this remarkable effort and reflects upon its legacy. Most of the original structures of the Manhattan Project have been inaccessible to the public and in recent years, have been stripped of their equipment and slated for demolition. Part II proposes a strategy for preserving these historical artifacts for the public and future generations."

"A new edition with a final chapter written forty years after the explosion."

Nuclear Weapons, the Damascus Accident, and the Illusion of Safety

Hiroshima

The Making Of The Hydrogen Bomb

Arsenals of Folly

Genius in the Shadows

The Spanish Civil War and the World it Made

Atomic Doctors

The Oscar-shortlisted documentary *Command and Control*, directed by Robert Kenner, finds its origins in Eric Schlosser's book and continues to explore the little-known history of the management and safety concerns of America's nuclear arsenal. "A devastatingly lucid and detailed new history of nuclear

weapons in the U.S. Fascinating.” –Lev Grossman, TIME Magazine “Perilous and gripping . . . Schlosser skillfully weaves together an engrossing account of both the science and the politics of nuclear weapons safety.” –San Francisco Chronicle A myth-shattering exposé of America’s nuclear weapons Famed investigative journalist Eric Schlosser digs deep to uncover secrets about the management of America’s nuclear arsenal. A groundbreaking account of accidents, near misses, extraordinary heroism, and technological breakthroughs, Command and Control explores the dilemma that has existed since the dawn of the nuclear age: How do you deploy weapons of mass destruction without being destroyed by them? That question has never been resolved—and Schlosser reveals how the combination of human fallibility and technological complexity still poses a grave risk to mankind. While the harms of global warming increasingly dominate the news, the equally dangerous yet more immediate threat of nuclear weapons has been largely forgotten. Written with the vibrancy of a first-rate thriller, Command and Control interweaves the minute-by-minute story of an accident at a nuclear missile silo in rural Arkansas with a historical narrative that spans more than fifty years. It depicts the urgent effort by American scientists, policy makers, and military officers to ensure that nuclear weapons can’t be stolen, sabotaged, used without permission, or detonated inadvertently. Schlosser also looks at the Cold War from a new perspective, offering history from the ground up, telling the stories of bomber pilots, missile commanders, maintenance crews, and other ordinary servicemen who risked their lives to avert a nuclear holocaust. At the heart of the book lies the struggle, amid the rolling hills and small farms of Damascus, Arkansas, to prevent the explosion of a ballistic missile carrying the most powerful nuclear warhead ever built by the United States. Drawing on recently declassified documents and interviews with people who designed and routinely handled nuclear weapons, Command and Control takes readers into a terrifying but fascinating world that, until now, has been largely hidden from view. Through the details of a single accident, Schlosser illustrates how an unlikely event can become unavoidable, how small risks can have terrible consequences, and how the most brilliant minds in the nation can only provide us with an illusion of control. Audacious, gripping, and unforgettable, Command and Control is a tour de force of investigative journalism, an eye-opening look at the dangers of America’s nuclear age. The Manhattan Projectthe World War II race to produce an atomic bombtransformed the entire country in myriad ways, but it did not affect each region equally. Acting on an enduring perception of the American West as an empty place, the U.S. government located a disproportionate number of nuclear facilitiesparticularly the ones most likely to spread pollutionin western states. The Manhattan Project manufactured plutonium at Hanford, Washington; designed and assembled bombs at Los Alamos, New Mexico; and detonated the worlds first atomic bomb at Alamogordo, New Mexico, on June 16, 1945. In the years that followed the war, the U.S. Atomic Energy Commission selected additional western sites for its work. Many westerners initially welcomed the atom. Like federal officials, they, too, regarded their

region as empty, or underdeveloped. Facilities to make, test, and base atomic weapons, sites to store nuclear waste, and even nuclear power plants were regarded as assets. By the 1960s and 1970s, however, regional attitudes began to change. At a variety of locales, ranging from Eskimo Alaska to Mormon Utah, westerners devoted themselves to resisting the atom and its effects on their environments and communities. Just as the atomic age had dawned in the American West, so its artificial sun began to set there. The Atomic West brings together contributions from several disciplines to explore the impact on the West of the development of atomic power from wartime secrecy and initial postwar enthusiasm to public doubts and protest in the 1970s and 1980s. An impressive example of the benefits of interdisciplinary studies on complex topics, The Atomic West advances our understanding of both regional history and the history of science, and does so with human communities as a significant focal point. The book will be of special interest to students and experts on the American West, environmental history, and the history of science and technology.

After learning of atomic physics, H. G. Wells began to think of its potential impact on human society. In *The World Set Free*, atomic energy causes massive unemployment, shaking the already fragile social order. The ambitious powers of the world decide to seize the opportunity to compete for dominance, and a world war breaks out, echoing the looming Great War about to ignite in 1914. Waking to the catastrophe, humanity begins the hard search for a way into a better future. The novel traces a soldier, an ex-king, a despot, and a sage through a profound transformation of human society, and we gain a window into Wells' own thoughts and hopes along the way. With one prophetic stroke, Wells gives the first detailed depiction of atomic energy and its potential destructive power, and predicts the use of the air power in modern warfare. He may have even directly influenced the development of nuclear weapons, as the physicist Leó Szilárd, shortly after reading the novel in 1932, then conceived of harnessing the neutron chain reaction critical to the development of the atom bomb. This book is part of the Standard Ebooks project, which produces free public domain ebooks.

2004 marked the centennial of the birth of J Robert Oppenheimer, and brought historians and scholars, former students, nuclear physicists, and politicians together to celebrate this event. Oppenheimer's life and work became central to 20th century history as he spearheaded the development of the atomic bomb that ended World War II. This book provides a spectrum of interpretations of Oppenheimer's life and scientific achievements. It approaches the extraordinary scientist and teacher from many perspectives, chronicling the years from his boyhood through his role as director of the Los Alamos National Laboratory and afterwards. The book also discusses Oppenheimer's connection to New Mexico, which hosted two of the Manhattan Project's most crucial sites, and addresses his lasting impact on contemporary science, international politics, and the postwar age.

The Bastard Brigade

Atomic Fragments

Dark Sun

A Political History of the Bomb and Its Proliferation

Command and Control

Tracking The Secrets Of A Terrifyin

An unflinching examination of the moral and professional dilemmas faced by physicians who took part in the Manhattan Project. After his father died, James L. Nolan, Jr., took possession of a box of private family materials. To his surprise, the small secret archive contained a treasure trove of information about his grandfather's role as a doctor in the Manhattan Project. Dr. Nolan, it turned out, had been a significant figure. A talented ob-gyn radiologist, he cared for the scientists on the project, organized safety and evacuation plans for the Trinity test at Alamogordo, escorted the "Little Boy" bomb from Los Alamos to the Pacific Islands, and was one of the first Americans to enter the irradiated ruins of Hiroshima and Nagasaki. Participation on the project challenged Dr. Nolan's instincts as a healer. He and his medical colleagues were often conflicted, torn between their duty and desire to win the war and their oaths to protect life.

Atomic Doctors follows these physicians as they sought to maximize the health and safety of those exposed to nuclear radiation, all the while serving leaders determined to minimize delays and maintain secrecy. Called upon both to guard against the harmful effects of radiation and to downplay its hazards, doctors struggled with the ethics of ending the deadliest of all wars using the most lethal of all weapons. Their work became a very human drama of ideals, co-optation, and complicity. A vital and vivid account of a largely unknown chapter in atomic history, Atomic Doctors is a profound meditation on the moral dilemmas that ordinary people face in extraordinary times.

The #1 national bestselling "riveting" (The New York Times), "propulsive" (Time) behind-the-scenes account "that reads like a tense thriller" (The Washington Post) of the 116 days leading up to the American attack on Hiroshima by veteran journalist and anchor of Fox News Sunday, Chris Wallace. April 12, 1945: After years of bloody conflict in Europe and the Pacific, America is stunned by news of President Franklin D. Roosevelt's death. In an instant, Vice President Harry Truman, who has been kept out of war planning and knows nothing of the top-secret Manhattan Project to develop the world's first atomic bomb, must assume command of a nation at war on multiple continents—and confront one of the most consequential decisions in history. Countdown 1945 tells the gripping true story of the turbulent days, weeks, and months to follow, leading up to August 6, 1945, when Truman gives the order to drop the bomb on Hiroshima. In Countdown 1945, Chris Wallace, the veteran journalist and anchor of Fox News Sunday, takes readers inside the minds of the iconic and elusive figures who join the quest for the bomb, each for different reasons: the legendary Albert Einstein, who eventually calls his vocal support for the atomic bomb "the one great mistake in my life"; lead researcher

J. Robert “Oppie” Oppenheimer and the Soviet spies who secretly infiltrate his team; the fiercely competitive pilots of the plane selected to drop the bomb; and many more. Perhaps most of all, Countdown 1945 is the story of an untested new president confronting a decision that he knows will change the world forever. But more than a book about the atomic bomb, Countdown 1945 is also an unforgettable account of the lives of ordinary American and Japanese civilians in wartime—from “Calutron Girls” like Ruth Sisson in Oak Ridge, Tennessee, to ten-year-old Hiroshima resident Hideko Tamura, who survives the blast at ground zero but loses her mother and later immigrates to the United States, where she lives to this day—as well as American soldiers fighting in the Pacific, waiting in fear for the order to launch a possible invasion of Japan. Told with vigor, intelligence, and humanity, Countdown 1945 is the definitive account of one of the most significant moments in history.

A thrilling narrative of scientific triumph, decades of secrecy, and the unimaginable destruction wrought by the creation of the atomic bomb. It began with plutonium, the first element ever manufactured in quantity by humans. Fearing that the Germans would be the first to weaponize the atom, the United States marshaled brilliant minds and seemingly inexhaustible bodies to find a way to create a nuclear chain reaction of inconceivable explosive power. In a matter of months, the Hanford nuclear facility was built to produce and weaponize the enigmatic and deadly new material that would fuel atomic bombs. In the desert of eastern Washington State, far from prying eyes, scientists Glenn Seaborg, Enrico Fermi, and many thousands of others—the physicists, engineers, laborers, and support staff at the facility—manufactured plutonium for the bomb dropped on Nagasaki, and for the bombs in the current American nuclear arsenal, enabling the construction of weapons with the potential to end human civilization. With his characteristic blend of scientific clarity and storytelling, Steve Olson asks why Hanford has been largely overlooked in histories of the Manhattan Project and the Cold War. Olson, who grew up just twenty miles from Hanford’s B Reactor, recounts how a small Washington town played host to some of the most influential scientists and engineers in American history as they sought to create the substance at the core of the most destructive weapons ever created. The Apocalypse Factory offers a new generation this dramatic story of human achievement and, ultimately, of lethal hubris. They were nine brilliant men who believed in science and who saw before anyone else the awesome workings of an invisible world. They came from many places, some fleeing Nazism in Europe, others quietly slipping out of university teaching jobs, all gathering in secret wartime laboratories to create the world's first atomic bomb. During World War II, few of the atomic scientists questioned the wisdom of their desperate endeavor. But afterward they were forced to deal with the sobering legacy of their creation. Some were haunted by the dead of Hiroshima and Nagasaki and became anti-nuclear weapons activists; others went on to build even deadlier bombs. In explaining their lives and their struggles, Brian VanDeMark superbly illuminates not only their moral reckoning with their horrific creation but also the ways in which each of us grapples with responsibility and unintended consequences.

Book One

The Untold Story of the Women Who Helped Win World War II

The World Set Free

Perspectives on the Making of the Atomic Bomb and Its Legacy

The Atomic West

A Biography of Leo Szilard, the Man Behind the Bomb

The Manhattan Project

So did not the atomic weapons bring about a great peace? Since the initial grateful acknowledgement of the success of the A-bomb at ending World War II, there has been a steady reversal of opinion and sentiment: from a first hearty appreciation to a condemnation by the United States for its actions. Atomic Salvation investigates the full situation of the times to a previously unplumbed depth. It examines documents from both Japanese and Allied sources, but it uses logical in-depth analysis to extend beyond the mere recounting of statistics to the full extent of the possible casualties on both sides if a conventional assault akin to D-Day had gone ahead. The work is concerned with military necessity to use the bombs, but it also investigates why that necessity has been increasingly challenged over the successive decades. Controversially, the book shows that the Japanese nation would have lost many millions of their people – likely around 28 million – if they had been attacked in the manner by which Germany was defeated: by amphibious assault; artillery and air attacks preceding infantry in the field and finally by subduing the last of the defenders of the enemy capital. From the other side, the book investigates the enormous political and economic costs placed on America as a result of their military situation. The USA's Truman Administration had little choice but to use the new weapon to end more than a million deaths Allied forces would undoubtedly have suffered through conventional assault. Through investigation of reactions before and since, Atomic Salvation charts reaction to the bombings. It looks briefly at a range of reactions through the decades and shows that there has been relentless pressure on the world to condemn what at the time was seen as the best, and the only, military solution to end the war. No such an exhaustive analysis been made of the necessity behind bringing World War II to a halt.

This book discusses the decision to use the atomic bomb. Libraries and scholars will find it a necessary adjunct to their other studies on World War II. Pulitzer Prize author Herbert Feis on World War II. Originally published in 1966. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University since its founding in 1905.

Here, for the first time, in a brilliant, panoramic portrait by the Pulitzer Prize-winning author of *The Making of the Atomic Bomb*, is the definitive, often shocking story of the politics and the science behind the development of the hydrogen bomb and the birth of the Cold War. Drawing on secret files in the United States and the former Soviet Union, this monumental work of history discloses how and why the United States decided to create the bomb that would dominate world politics for more than forty years.

Describes the scientific discoveries and political circumstances behind the decision to develop atomic weapons; recounts the history of the Manhattan Project; and examines the influence of nuclear weapons on the modern world.

The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses, and Historians

Manhattan Project

A Human History

Science, Secrecy and the Postcolonial State

Nine Men and the Atomic Bomb

The Apocalypse Factory: Plutonium and the Making of the Atomic Age

Insights Into J. Robert Oppenheimer, "Father of the Atomic Bomb"

From New York Times bestselling author Sam Kean comes the gripping, untold story of a renegade group of scientists determined to keep Adolf Hitler from obtaining the ultimate prize: a nuclear bomb. Scientists have always kept secrets, but the secrets have been as vital as they were during World War II. In the middle of building an atomic bomb, the leaders of the Manhattan Project were alarmed to learn that Nazi Germany was far outpacing the Allies in nuclear weapons research. With just a few pounds of uranium, they would have the capability to reverse the entire D-Day operation and conquer Europe. So they assembled a rough and motley crew of geniuses -- dubbed the Alsos Mission -- and sent them careening into Axis territory to spy, sabotage, and even assassinate members of Nazi Germany's feared Uranium Club. The details of the mission rival a spy thriller, but what makes this story sing is the incredible cast of characters -- both heroes and rogues alike -- including Klaus Fuchs, a German physicist who became a spy for the Soviet Union; Hans Bethe, the major league catcher who abandoned the game for a career as a multilingual international spy; the strange case of the "Fat Man" atomic bomb; Werner Heisenberg, the Nobel Prize-winning physicist credited as the discoverer of quantum mechanics; a key contributor to the Nazi's atomic bomb project and the primary target of the Alsos mission. Colonel Paul Tibbets, a high school science teacher and veteran of the Russian Revolution who fled the Soviet Union with a deep disdain for Communism and who later led the Alsos mission. Joe Kennedy Jr., the charismatic, thrill-seeking older brother of JFK whose need for adventure led him to volunteer for the most dangerous missions the Navy had to offer. Samuel Goudsmit, a washed-up physicist prodigy who spent his life hunting Nazi scientists -- and his parents, who had been swept into a concentration camp during the Holocaust. Irène and Frederic Joliot-Curie, a physics Nobel-Prize winning power couple who used their unassuming status as scientists to become active members of the resistance. Thrust into the dark world of international espionage, these men and women played a vital and largely untold role in turning back one of the darkest tides in human history.

In 1974 India exploded an atomic device. In May 1998 the new BJP Government exploded several more, encountering a mix of domestic plaudits but international condemnation and a nuclear arms race in South Asia. This book is the first historical account of the development of nuclear power in India and of how the bomb came to be made. The author challenges the orthodox interpretations implying that it was a product of the Indo-Pakistani conflict. Instead, he suggests that the bomb had nothing to do with national security as conventionally understood. Instead he demonstrates the linkages that existed

two apparently separate discourses of national security and national development, and explores their common underpinnings in postcolonial states. The result is a remarkable book that breaks new ground in integrating comparative politics, international relations and cultural studies.

James B. Conant (1893-1978) was one of the titans of mid-20th-century American history, attaining prominence in multiple fields. Usually remembered as an educational leader, he was president of Harvard University for two tumultuous decades, from the Depression to World War II to the Cold War and McCarthyism. To take that job he gave up a scientific career as one of the country's top chemists, and he left it twenty years later to become Eisenhower's top diplomat in postwar Europe. James Hershberg's prize-winning study, however, examines a critical aspect of Conant's life that was long obscured by government secrecy: his pivotal role in the birth of the nuclear age. During World War II, as an advisor to Roosevelt and then Truman (on the elite "Interim Committee" that considered how to employ the bomb against Japan), Conant was intimately involved in the decisions to build and use the atomic bomb. During and after the Manhattan Project, he also led efforts to prevent a nuclear arms race between the United States and the Soviet Union that, he feared, threatened the survival of civilization. The apocalyptic prospect he glimpsed in the first instant of the new age, when he witnessed the first test of the new weapon at Alamogordo on July 16, 1945. "... a vivid inquiry... a model of historiography; evocative reading...[Conant was] central to the making of nuclear policy and progress; the bomb would be as much Conant's as it was anyone's in Government. His inner response to the responsibility has long been obscured, but it is illumined here." — Philip Morrison, *The New York Times Book Review* "A splendid portrait of Conant, James Hershberg has illuminated the life of a pivotal figure in the making of U.S. nuclear energy, educational and foreign policy for almost a half-century. But the book is much more: It is not only an insightful narrative of Conant's life; it is also a brilliant and important account of the making of the nuclear age, a chronicle that contains much that is new... Hershberg's superb study... is a chronicle of Conant's moral journey and we are the wiser for his having charted the path." — S.S. Schweber, *Washington Post Book World* "James G. Hershberg ably comes to grips with Conant and his times... His book is vibrantly written and compelling, and it breaches Conant's shield of public discretion in masterly fashion, making extensive use of unpublished interviews, diaries, reports, and correspondence pried from private and government repositories. It is a huge, ambitious work — a history of the Cold War as Conant encountered it as well as a study of Conant." — Daniel J. Kevles, *The New Yorker* "... a well-written, comprehensive, nonjudgmental but sensitive biography... Conant was involved in so many and such critical events that students of almost any aspect of our public life over the past half-century will find useful the new material and helpful insights in this book... This fine biography of one of the most important and influential of America's twentieth-century leaders immediately establishes James Hershberg as one of America's outstanding young historians." — Stephen E. Ambrose, *Foreign Affairs* "... magnificent... Any reader interested in nuclear weapons, Cold War

or American politics from FDR to JFK will find this biography riveting.” — Priscilla McMillan, Chicago Tribune “... masterful. The prose is clear, the narrative forceful and the author’s judgments are balanced and judicious. This is simply splendid biography... The highest praise one can give for a book of this sort is that the historian has not shrunk from speaking power. This book quietly but insistently does so. It should be read by the public at large as one of the definitive texts on war and the nuclear age... Hershberg’s triumph is that he has prevailed over all the official lies to give us one more glimpse of historical truth.” — Kai Bird, The Nation “... riveting... an impressive achievement... honest and comprehensive in its scope, the author has shown himself to be a historian of notable achievement and promise.” — McGeorge Bundy, Nature “Hershberg’s outstanding, balanced biography lifts the self-imposed secrecy surrounding a key architect of U.S. Cold War policy and the nuclear age.” —Publisher’s Weekly “... [an] impressive and substantial achievement. [Hershberg] has used the life of a strategically placed individual to illuminate the most important issues surrounding America’s role and conduct in the nuclear age. His book will be invaluable to scholars assessing the impact and legacy of the group who acquired the epithet ‘the boys in the back room’ now that the Cold War has receded.” — Carol S. Gruber, Science “... definitive... a far more textured picture than one could get from Conant’s own guarded and unrevealing autobiography... an important and rewarding book... illuminating... Conant led a remarkable and eventful life in remarkable and eventful times. James Hershberg has explored that life, and those times, in exhaustive and revealing detail.” — Paul Boyer, The New Republic “James G. Hershberg has achieved the impossible. He has written a huge biography of a Harvard president that is fascinating, informative and as valuable a piece of American history as anything I have read in years... Mr. Hershberg has brought us back vividly to an age that seems remote, so long ago. The questions about nuclear proliferation are the same, even while the answers are still ambiguous. As we watch men solve unanticipated post-Cold War problems and civil wars sprouting like Jason’s men at arms, it is good to read this story of a complex man who deserves an important place in our history because he helped make that history possible.” — Arnold Shankman, The Washington Times “... engrossing... A magisterial study of an awesome and intriguing public career.” —Kirkus Reviews “... entertaining... thought-provocative.” — Dick Teresi, The Wall Street Journal “Hershberg’s book helps us more clearly understand the postwar Establishment and offers a challenging appraisal of the role of elites, of universities and of the state.” — David Alperovitz, In These Times “Hershberg deserves great credit for cracking a tough New England walnut, analyzing this important public figure, demonstrating how he fit into his own time and showing us what we can learn from the man.” — R. Mortensen, The Friday Review of Defense Literature “... a compelling account... an engaging examination of one of the central figures of the nuclear age. It succeeds in showing ‘one man’s intersection with great events and issues’ and the process illuminates those issues for us all.” — American Historical Review “... well-written... Conant’s participation in the country’s most dynamic periods is, thanks to Hershberg, now much better understood.” — Library Journal “A reader

will enter the realm of the greats, the shapers of worlds created by the atomic blasts at Hiroshima and Nagasaki... (bit player in Cold War history... [the book is] very successful in weaving Conant's subsurface persona in with his ups as a prominent and committed public figure. And it leaves out little detail in describing top-level decisions involving the geopolitics of nuclear weaponry. Conant was a participant in most of these decisions—with Presidents Roosevelt and themselves, their Secretaries of War and State, and, of course, all the major scientific figures of the time.” — *Chemical Engineering News* “A wonderfully rich portrait that emerges from a carefully documented account of Conant's role in the development of the atomic bomb and post-war nuclear policy... An extraordinarily well written text... Hershberg lays the person behind the persona — warts, dimples and all.” — Stanley Goldberg, *Bulletin of the Atomic Scientists*

A “meticulously researched” (*The New York Times Book Review*) examination of energy transitions over time and an exploration of the current challenges presented by global warming, a surging world population, and renewable energy—from Pulitzer Prize and National Book Award-winning author Richard Rhodes. People have lived and died, businesses have prospered and failed, and nations have risen to world power and declined, all over energy challenges. Through an unforgettable cast of characters, Pulitzer Prize-winning author Richard Rhodes explains how wood gave way to coal and coal made room for oil, as well as natural gas, nuclear power, and renewable energy. “Entertaining and informative...a powerful look at the importance of energy” (*NPR.org*), Rhodes looks back on five centuries of progress, through such influential figures as Queen Elizabeth I, King Benjamin Franklin, Herman Melville, John D. Rockefeller, and Henry Ford. In his “magisterial history...a tour de force of popular science” (*Kirkus Reviews*, starred review), Rhodes shows how breakthroughs in energy production occurred; from waterpower to the steam engine, from internal-combustion to the electric motor. He looks at the current energy challenges with a focus on how wind energy is competing for dominance with established supplies of coal and natural gas. He also addresses the specter of global warming, and a population hurtling towards ten billion by 2100. Human beings have confronted the challenge of how to draw energy from raw material since the beginning of time. Each invention, each discovery, each adaptation met further challenges, and through such transformations, we arrived at where we are today. “A beautifully written, often entertaining saga of ingenuity and progress...Energy brings facts, context, and clarity to a key, often contentious subject” (*Booklist*, review).

Bomb

The Story of the Scientific Quest for the Secret of the Universe

The Atomic Bomb and the Origins of the Cold War

Making the Atomic Bomb

The Extraordinary Story of the Atomic Bomb and the 116 Days That Changed the World

The Race to Build--and Steal--the World's Most Dangerous Weapon

Oppenheimer and the Manhattan Project

Colonel Leslie R. Groves was a career officer in the Army Corps of Engineers, fresh from over-seeing hundreds of military construction projects, including the Pentagon, when he was given the job in September 1942 of building the atomic bomb. In this full-scale history, Morris places Groves at the centre of the amazing Manhattan Project story. Offering new information and vital insights into how the bomb was built and how the decision to use it was made, this is a completely new perspective on the military colossus behind the U.S.'s atomic bombs.

Looks at the contributions of the thousands of women who worked at a secret uranium-enriching facility in Oak Ridge, Tennessee during World War II.

Capturing personal remembrances of the atomic bomb, Palevsky takes readers on a journey into the minds, memories, and emotions of the bomb builders themselves. Her parents worked on the bomb's development during World War II, and after their deaths, unanswering questions sent Palevsky on a search to interview other scientists involved in the research. 22 photos.

"Nuclear weapons, since their conception, have been the subject of secrecy. In the months after the dropping of the atomic bombs on Hiroshima and Nagasaki, the American scientific establishment, the American government, and the American public all wrestled with what the author calls the "problem of secrecy," wondering not only whether secrecy was appropriate and effective as a means of controlling this new technology, but also whether it was compatible with the country's core values. Out of a messy context of propaganda, confusion, spy scares, and the rivalry of competing groups of scientists, what historian Alex Wellerstein calls a "new regime of secrecy" was put into place. It was unlike anything previous or since. Nuclear secrets were given their own unique legal designation in American law ("restricted data"), one that was treated differently than all other forms of national security classification and exists to this day. Drawing on massive amounts of declassified information, including records released by the government for the first time at the author's request, Restricted Data is a narrative account of the bomb and the tensions and uncertainty that built as the Cold War continued. In the US, both science and democracy are pitted against each other, and secrecy, and this makes its history uniquely compelling and timely"--

Hell and Good Company

Trinity: A Graphic History of the First Atomic Bomb

Restricted Data

Countdown 1945

The Girls of Atomic City

The Making of the Nuclear Arms Race

Racing for the Bomb

"The Spanish Civil War (1936-1939) inspired and haunted an extraordinary number of exceptional artists and writers, including Pablo Picasso, Joan Miro, Martha Gelhorn, Ernest Hemingway, George Orwell, and John Dos Passos. It spurred

breakthroughs in military and medical technology. New aircraft, weapons, tactics, and strategy all emerged in the intense Spanish conflict. Progress also arose from the horror: doctors and nurses who volunteered to serve with the Spanish defenders devised major advances in battlefield surgery and frontline blood transfusion. Rhodes takes us into the battlefields, bomb shelters, and hospitals; into the studios of artists; and into the hearts and minds of a rich cast of characters, showing how the ideological, aesthetic, and technological developments that emerged in Spain changed the world forever." --

On the seventy-fifth anniversary of the first atomic bomb, discover new reflections on the Manhattan Project from President Barack Obama, hibakusha (survivors), and the modern-day mayors of Hiroshima and Nagasaki. The creation of the atomic bomb during World War II, codenamed the Manhattan Project, was one of the most significant and clandestine scientific undertakings of the 20th century. It forever changed the nature of war and cast a shadow over civilization. Born out of a small research program that began in 1939, the Manhattan Project would eventually employ nearly 600,000 people and cost about \$2 billion (\$28.5 billion in 2020) -- all while operating under a shroud of complete secrecy. On the 75th anniversary of this profoundly crucial moment in history, this newest edition of *The Manhattan Project* is updated with writings and reflections from the past decade and a half. This groundbreaking collection of essays, articles, documents, and excerpts from histories, biographies, plays, novels, letters, and oral histories remains the most comprehensive collection of primary source material of the atomic bomb.

Traces the development of the atomic bomb from Leo Szilard's concept through the drama of the race to build a workable device to the dropping of the bomb on Hiroshima

Finalist for the National Book Critics Circle Award: the "intensely exciting" story of a group of brilliant scientists who set out to answer the deepest questions about the origin of the universe and changed the course of physics and astronomy forever (Newsday). In southern California, nearly a half century ago, a small band of researchers — equipped with a new 200-inch telescope and a faith born of scientific optimism — embarked on the greatest intellectual adventure in the history of humankind: the search for the origin and fate of the universe. Their quest would eventually engulf all of physics and astronomy, leading not only to the discovery of quasars, black holes, and shadow matter but also to fame, controversy, and Nobel Prizes. *Lonely Hearts of the Cosmos* tells the story of the men and women who have taken eternity on their shoulders and stormed nature in search of answers to the deepest questions we know to ask. "Written with such wit and verve that it is hard not to zip through in one sitting." —Washington Post

A Daughter's Questions

Pandora's Keepers

The History of Nuclear Secrecy in the United States

General Leslie R. Groves, the Manhattan Project's Indispensable Man

James B. Conant: Harvard to Hiroshima and the Making of the Nuclear Age

The Making of the Indian Atomic Bomb

Energy

A study of nuclear warfare's key role in triggering the post-World War II confrontation between the US and the USSR After a devastating world war, culminating in the obliteration of Hiroshima and Nagasaki, it was clear that the United States and the Soviet Union had to establish a cooperative order if the planet was to escape an atomic World War III. In this provocative study, Campbell Craig and Sergey Radchenko show how the atomic bomb pushed the United States and the Soviet Union not toward cooperation but toward deep bipolar confrontation. Joseph Stalin, sure that the Americans meant to deploy their new weapon against Russia and defeat socialism, would stop at nothing to build his own bomb. Harry Truman, initially willing to consider cooperation, discovered that its pursuit would mean political suicide, especially when news of Soviet atomic spies reached the public. Both superpowers, moreover, discerned a new reality of the atomic age: now, cooperation must be total. The dangers posed by the bomb meant that intermediate measures of international cooperation would protect no one. Yet no two nations in history were less prepared to pursue total cooperation than were the United States and the Soviet Union. The logic of the bomb pointed them toward immediate Cold War. "Sprightly and well-argued... The complicated history of how the bomb influenced the start of the war has never been explored so well."—Lloyd Gardner, Rutgers University "An outstanding new interpretation of the origins of the Cold War that gives equal weight to American and Soviet perspectives on the conflict that shaped the contemporary world."—Geoffrey Roberts, author of Stalin's Wars

The Making of the Atomic Bomb

The Pulitzer Prize-winning author of The Making of the Atomic Bomb narrates the story of the postwar superpower arms race that culminated in the Reagan-Gorbachev era when the U.S. and Soviet Union came all too close to nuclear war, chronicling the nuclear policies on both sides following World War II and their implications for global peace and security. Reprint. 20,000 first printing.

Well-known names such as Albert Einstein, Enrico Fermi, J. Robert Oppenheimer, and Edward Teller are usually those that surround the creation of the atom bomb. One name that is rarely mentioned is Leo Szilard, known in scientific circles as "father of the atom bomb." The man who first developed the idea of harnessing energy from nuclear chain reactions, he is curiously buried with barely a trace in the history of this well-known and controversial topic. Born in Hungary and educated in Berlin, he escaped Hitler's Germany in 1933 and that first year developed his concept of nuclear chain reactions. In order

to prevent Nazi scientists from stealing his ideas, he kept his theories secret, until he and Albert Einstein pressed the US government to research atomic reactions and designed the first nuclear reactor. Though he started his career out lobbying for civilian control of atomic energy, he concluded it with founding, in 1962, the first political action committee for arms control, the Council for a Livable World. Besides his career in atomic energy, he also studied biology and sparked ideas that won others the Nobel Prize. The Salk Institute for Biological Studies in La Jolla, California, where Szilard spent his final days, was developed from his concepts to blend science and social issues.

The True Story of the Renegade Scientists and Spies Who Sabotaged the Nazi Atomic Bomb

The Making of the Atomic Bomb

How the A-Bomb attacks saved the lives of 32 million people

Lonely Hearts of the Cosmos

Birthplace of the Atomic Bomb

Remembering the Manhattan Project

A Complete History of the Trinity Test Site

A history of the origins and development of the American atomic bomb program during WWII. Begins with the scientific developments of the pre-war years. Details the role of the U.S. government in conducting a secret, nationwide enterprise that took science from the laboratory and into combat with an entirely new type of weapon. Concludes with a discussion of the immediate postwar period, the debate over the Atomic Energy Act of 1946, and the founding of the Atomic Energy Commission. Chapters: the Einstein letter; physics background, 1919-1939; early government support; the atomic bomb and American strategy; and the Manhattan district in peacetime. Illustrated.

This is a political history of nuclear weapons from the discovery of fission in 1938 to the nuclear train wreck that seems to loom in our future. It is an account of where those weapons came from, how the technology surprisingly and covertly spread, and who is likely to acquire those weapons next and most importantly why. The authors' examination of post Cold War national and geopolitical issues regarding nuclear proliferation and the effects of Chinese sponsorship of the Pakistani program is eye opening. The reckless "nuclear weapons programs for sale" exporting of technology by Pakistan is truly chilling, as is the on-again off-again North Korean nuclear weapons program.

The ramifications of the Manhattan Project are still with us to this day. The atomic bombs that came out of it brought an end to the war in the Pacific, but at a heavy loss of life in Japan and the opening of a Pandora's box that has tested international relations. This book traces the history of the Manhattan Project, from the first glimmerings of the possibility of such a catastrophic weapon to the aftermath of the bombings of Hiroshima and Nagasaki. It profiles the architects of the bomb and how they tried to reconcile their personal feelings with their ambition as scientists. It looks at the role of the politicians and it

includes first-hand accounts of those who experienced the effects of the bombings.

It was not Robert Oppenheimer who built the bomb—it was engineers, chemists and young physicists in their twenties, many not yet having earned a degree. The first atomic bomb was originally conceived as a backup device, a weapon not then currently achievable. The remote Trinity Site—the birthplace of the bomb—was used as a test range for U.S. bombers before the first nuclear device was secretly detonated. After the blast, locals speculated that the flash and rumble were caused by colliding B-29s, while Manhattan Project officials nervously measured high levels of offsite radiation. Drawing on original documents, many recently declassified, the author sheds new light on a pivotal moment in history—now approaching its 75th anniversary—told from the point of view of the men who inaugurated the Atomic Age in the New Mexico desert.

Summary of Richard Rhodes's *The Making of the Atomic Bomb* by Milkyway Media

Deadly Feasts

The Nuclear Express

The Atomic Bomb and the End of World War II

Atomic Salvation

The Untold Story of the Making of the Atomic Bomb

In this brilliant and gripping medical detective story, Richard Rhodes follows virus hunters on three continents as they track the emergence of a deadly new brain disease that first kills cannibals in New Guinea, then cattle and young people in Britain and France -- and that has already been traced to food animals in the United States. In a new Afterword for the paperback, Rhodes reports the latest U.S. and worldwide developments of a burgeoning global threat.

In December of 1938, a chemist in a German laboratory made a shocking discovery: When placed next to radioactive material, a Uranium atom split in two. That simple discovery launched a scientific race that spanned 3 continents. In Great Britain and the United States, Soviet spies worked their way into the scientific community; in Norway, a commando force slipped behind enemy lines to attack German heavy-water manufacturing; and deep in the desert, one brilliant group of scientists was hidden away at a remote site at Los Alamos. This is the story of the plotting, the risk-taking, the deceit, and genius that created the world's most formidable weapon. This is the story of the atomic bomb. *Bomb* is a 2012 National Book Awards finalist for Young People's Literature. *Bomb* is a 2012 Washington Post Best Kids Books of the Year title. *Bomb* is a 2013 Newbery Honor book.