

The Clockwork Universe Isaac Newton The Royal Society And The Birth Of The Modern World

Documents the innovations of a group of eccentric geniuses who developed computer code in the mid-20th century as part of mathematician Alan Turing's theoretical universal machine idea, exploring how their ideas led to such developments as digital television, modern genetics and the hydrogen bomb.

Isaac Newton was born in 1642, the year that Galileo died. You'll learn how he built on the work of Galileo and Kepler, developing the three laws of motion and the concept of universal gravitation. You'll learn why Newton's laws suggest a universe that runs like a clock.

Download for FREE on Kindle Unlimited + Free BONUS Inside! Read On Your Computer, MAC, Smartphone, Kindle Reader, iPad, or Tablet. Isaac Newton

In the predawn hours of a gloomy February day in 1994, two thieves entered the National Gallery in Oslo and made off with one of the world's most famous paintings, Edvard Munch's *Scream*. It was a brazen crime committed while the whole world was watching the opening ceremonies of the Winter Olympics in Lillehammer. Baffled and humiliated, the Norwegian police turned to the one man they believed could help: a half English, half American undercover cop named Charley Hill, the world's greatest art detective. *The Rescue Artist* is a rollicking narrative that carries readers deep inside the art underworld -- and introduces them to a large and colorful cast of titled aristocrats, intrepid investigators, and thick-necked thugs. But most compelling of all is Charley Hill himself, a complicated mix of brilliance, foolhardiness, and charm whose hunt for a purloined treasure would either cap an illustrious career or be the fiasco that would haunt him forever.

In *Time Reborn*, Lee Smolin, one of our foremost physicists and thinkers offers a radical new view of the nature of time and the cosmos. Nothing seems more real than time passing. We experience life itself as a succession of moments. Yet throughout history, the idea that time is an illusion has been a religious and philosophical commonplace. We identify certain truths as 'eternal' constants, from moral principles to the laws of mathematics and nature: these are laws that exist not inside time, but outside it. From Newton and Einstein to today's string theorists and quantum physicists, the widest consensus is that the universe is governed by absolute, timeless laws. In *Time Reborn*, Lee Smolin argues that this denial of time is holding back both physics, and our understanding of the universe. We need a major revolution in scientific thought: one that embraces the reality of time and places it at the centre of our thinking. E may equal mc squared now, but that wasn't always the case. Similarly, as our understanding of the universe develops, Newton's fundamental laws might not remain so fundamental. Time, Smolin concludes, is not an illusion: it is the best clue we have to fundamental reality. *Time Reborn* explains how the true nature of time impacts on us, our world, and our universe. 'The strongest dose of clarity in written form to have come along in decades. The implications go far beyond physics, to economics, politics, and personal philosophy. *Time Reborn* places reality above theory in stronger and clearer terms than ever before, and the result is a path to better theory and potentially to a better society as well. Will no doubt be remembered as one of the essential books of the 21st century' Jaron Lanier [Praise for Lee Smolin's *The Trouble With Physics*]: 'The best book about contemporary science written for the layman that I have ever read . . . Read this book. Twice' Sunday Times 'Unusually broad and deep . . . his critical judgments are exceptionally penetrating' Roger Penrose 'Brave, uniquely well-informed . . . does a tremendous job' Mail on Sunday Lee Smolin is a theoretical physicist who has made important contributions to the search for quantum gravity. Born in New York City, he was educated at Hampshire College and Harvard University. Since 2001 he is a founding faculty member at Perimeter Institute for Theoretical Physics. His three earlier books explore philosophical issues raised by contemporary physics and cosmology. They are *Life of the Cosmos* (1997), *Three Roads to Quantum Gravity* (2001) and *The Trouble with Physics* (2006). He lives in Toronto.

A companion to such acclaimed works as *The Age of Wonder*, *A Clockwork Universe*, and *Darwin's Ghosts*—a groundbreaking examination of the greatest event in history, the Scientific Revolution, and how it came to change the way we understand ourselves and our world. We live in a world transformed by scientific discovery. Yet today, science and its practitioners have come under political attack. In this fascinating history spanning continents and centuries, historian David Wootton offers a lively defense of science, revealing why the Scientific Revolution was truly the greatest event in our history. *The Invention of Science* goes back five hundred years in time to chronicle this crucial transformation, exploring the factors that led to its birth and the people who made it happen. Wootton argues that the Scientific Revolution was actually five separate yet concurrent events that developed independently, but came to intersect and create a new worldview. Here are the brilliant iconoclasts—Galileo, Copernicus, Brahe, Newton, and many more curious minds from across Europe—whose studies of the natural world challenged centuries of religious orthodoxy and ingrained superstition. From gunpowder technology, the discovery of the new world, movable type printing, perspective painting, and the telescope to the practice of conducting experiments, the laws of nature, and the concept of the fact, Wootton shows how these discoveries codified into a social construct and a system of knowledge. Ultimately, he makes clear the link between scientific discovery and the rise of industrialization—and the birth of the modern world we know.

Why cracking the code of human conception took centuries of wild theories, misogynist blunders, and ludicrous mistakes Throughout most of human history, babies were surprises. People knew the basics: men and women had sex, and sometimes babies followed. But beyond that the origins of life were a colossal mystery. *The Seeds of Life* is the remarkable and rollicking story of how a series of blundering geniuses and brilliant amateurs struggled for two centuries to discover where, exactly, babies come from. Taking a page from investigative thrillers, acclaimed science writer Edward Dolnick looks to these early scientists as if they were detectives hot on the trail of a bedeviling and urgent mystery. These strange searchers included an Italian surgeon using shark teeth to prove that female reproductive organs were not 'failed' male genitalia, and a Catholic priest who designed ingenious miniature pants to prove that frogs required semen to fertilize their eggs. A witty and rousing history of science, *The Seeds of Life* presents our greatest scientists struggling-against their perceptions, their religious beliefs, and their deep-seated prejudices-to uncover how and where we come from.

Snyder delivers a compelling portrait of four remarkable friends--William Whewell, Charles Babbage, John Herschel, and Richard Jones--who transformed science and changed the world.

When Isaac Newton died in 1727 without a will, he left behind a wealth of papers that, when examined, gave his followers and his family a deep sense of unease. Some of what they contained was wildly heretical and alchemically obsessed, hinting at a Newton altogether stranger and less palatable than the one enshrined in Westminster Abbey as the paragon of English rationality. These manuscripts had the potential to undermine not merely Newton's reputation, but that of the scientific method he embodied. They were immediately suppressed as "unfit to be printed," and, aside from brief, troubling glimpses spread across centuries, the papers would remain hidden from sight for more than seven generations. In *The Newton Papers*, Sarah Dry illuminates the tangled history of these private writings over the course of nearly three hundred years, from the long span of Newton's own life into the present day. The writings, on subjects ranging from secret alchemical formulas to impassioned rejections of the Holy Trinity, would eventually come to light as they moved through the hands of relatives, collectors, and scholars. The story of their disappearance, dispersal, and rediscovery is populated by a diverse cast of characters who pursued and possessed the papers, from economist John Maynard Keynes to controversial Jewish Biblical scholar Abraham Yahuda. Dry's captivating narrative moves between these varied personalities, depicting how, as they chased the image of Newton through the thickets of his various obsessions, these men became obsessed themselves with the allure of defining the "true" Newton. Dry skillfully accounts for the ways with which Newton's pursuers have approached his papers over centuries. Ultimately, *The Newton Papers* shows how Newton has

been made and re-made throughout history by those seeking to reconcile the cosmic contradictions of an extraordinarily complex man. Looking at both historical and contemporary contexts, the author argues that religion has played a major role in suppressing scientific pursuit. Original.

The Clockwork Universe is the story of a band of men who lived in a world of dirt and disease but pictured a universe that ran like a perfect machine. A meld of history and science, this book is a group portrait of some of the greatest minds who ever lived as they wrestled with nature's most sweeping mysteries. The answers they uncovered still hold the key to how we understand the world. At the end of the seventeenth century—an age of religious wars, plague, and the Great Fire of London—when most people saw the world as falling apart, these earliest scientists saw a world of perfect order. They declared that, chaotic as it looked, the universe was in fact as intricate and perfectly regulated as a clock. This was the tail end of Shakespeare's century, when the natural and the supernatural still twined around each other. Disease was a punishment ordained by God, astronomy had not yet broken free from astrology, and the sky was filled with omens. It was a time when little was known and everything was new. These brilliant, ambitious, curious men believed in angels, alchemy, and the devil, and they also believed that the universe followed precise, mathematical laws—a contradiction that tormented them and changed the course of history. The Clockwork Universe is the fascinating and compelling story of the bewildered geniuses of the Royal Society, the men who made the modern world.

Isaac Newton's main body of work was as a physicist and mathematician. He was a part of a scientific revolution in the 17th century which would fundamentally change the way that people would see the world. In the field of optics, he would advance our understanding of light and how we saw it. Inside you will read about... Born Into Tragedy His Life in Cambridge The Start of His Genius The Birth of Calculus Newton Invents a New Telescope His Famous Work on Light and Color Newton and His Rivals The Most Important Science Book of All-Time The Principia The Apple Myth Newton's Dark Obsessions Newton the Man and his Later Life Newton the Hangman Newton's Weird and Wonderful Personality His Final Years Newton's Legacy The Strengths and Weaknesses of Sir Isaac Newton How Can We Use Newton's Strengths in Our Lives? The Best Books on Isaac Newton And much more! In mechanics he would create his famous three laws of motion but it's in physics that he became most well-known for his understanding of gravity, and in mathematics for his discovery of calculus and his writing perhaps the single most important scientific book of all-time, the 'Principia' which is still referenced today. Albert Einstein was an outstanding physician and mathematician of the 20th century. He was a pure genius who created a formula that would build a bomb capable of killing thousands at a time. Albert learned to play the violin. He could play a few notes on the piano or the violin, and then he would jot down notes on some theory. Einstein won the Nobel Prize for Physics in 1922. Inside you will read about... A Genius Shows Up with a Deformed Head The Odd Shaped Head Starts to Read Einstein Had A "Miracle Year" Einstein Finds He Has Enemies Albert Had His Problems Too Did Einstein Have a 3rd Son? You Decide The End is Soon to Come What Exactly Was the Legacy of Einstein? And much more! As far as the way he lived his life, well, read on, and you be the judge to see if you think he had a full and happy life. Einstein's story awaits you on the pages ahead.

A prize-winning popular science writer uses mathematical modeling to explain the cosmos. In Calculating the Cosmos, Ian Stewart presents an exhilarating guide to the cosmos, from our solar system to the entire universe. He describes the architecture of space and time, dark matter and dark energy, how galaxies form, why stars implode, how everything began, and how it's all going to end. He considers parallel universes, the fine-tuning of the cosmos for life, what forms extraterrestrial life might take, and the likelihood of life on Earth being snuffed out by an asteroid. Beginning with the Babylonian integration of mathematics into the study of astronomy and cosmology, Stewart traces the evolution of our understanding of the cosmos: How Kepler's laws of planetary motion led Newton to formulate his theory of gravity. How, two centuries later, tiny irregularities in the motion of Mars inspired Einstein to devise his general theory of relativity. How, eighty years ago, the discovery that the universe is expanding led to the development of the Big Bang theory of its origins. How single-point origin and expansion led cosmologists to theorize new components of the universe, such as inflation, dark matter, and dark energy. But does inflation explain the structure of today's universe? Does dark matter actually exist? Could a scientific revolution that will challenge the long-held scientific orthodoxy and once again transform our understanding of the universe be on the way? In an exciting and engaging style, Calculating the Cosmos is a mathematical quest through the intricate realms of astronomy and cosmology.

A blunt and humorous profile of Isaac Newton focusing on his disagreeable personality and showing that his offputting qualities were key to his scientific breakthroughs. Isaac Newton may have been the most important scientist in history, but he was a very difficult man. Put more bluntly, he was an asshole, an SOB, or whatever epithet best describes an abrasive egomaniac. In this colorful profile of the great man--warts and all--astronomer Florian Freistetter shows why this damning assessment is inescapable. Newton's hatred of fellow scientist Robert Hooke knew no bounds and he was strident in expressing it. He stole the work of colleague John Flamsteed, ruining his career without a second thought. He carried on a venomous battle with Gottfried Wilhelm Leibniz over the invention of calculus, vilifying him anonymously while the German scientist was alive and continuing the attacks after he died. All evidence indicates that Newton was conniving, sneaky, resentful, secretive, and antisocial. Compounding the mystery of his strange character is that he was also a religious fanatic, a mystery-monger who spent years studying the Bible and predicted the apocalypse. While documenting all of these unusual traits, the author makes a convincing case that Newton would have never revolutionized physics if he hadn't been just such an obnoxious person. This is a fascinating character study of an astounding genius and--if truth be told--an almighty asshole as well.

The dramatic human story of an epic scientific quest and of one man's forty-year obsession to find a solution to the thorniest scientific dilemma of the day--"the longitude problem." Anyone alive in the eighteenth century would have known that "the longitude problem" was the thorniest scientific dilemma of the day--and had been for centuries. Lacking the ability to measure their longitude, sailors throughout the great ages of exploration had been literally lost at sea as soon as they lost sight of land. Thousands of lives and the increasing fortunes of nations hung on a resolution. One man, John Harrison, in complete opposition to the scientific community, dared to imagine a mechanical solution--a clock that would keep precise time at sea, something no clock had ever been able to do on land. Longitude is the dramatic human story of an epic scientific quest and of Harrison's forty-year obsession with building his perfect timekeeper, known today as the chronometer. Full of heroism and chicanery, it is also a fascinating brief history of astronomy, navigation, and clockmaking, and opens a new window on our world. The surprising and compelling story of two rival geniuses in an all-out race to decode one of the world's most famous documents--the Rosetta Stone--and their twenty-year-long battle to solve the mystery of ancient Egypt's hieroglyphs. The Rosetta Stone is one of the most famous objects in the world, attracting millions of visitors to the British museum every year, and yet most people don't really know what it is. Discovered in a pile of rubble in 1799, this slab of stone proved to be the key to unlocking a lost language that baffled scholars for centuries. Carved in ancient Egypt, the Rosetta Stone carried the same message in different languages--in Greek using Greek letters, and in Egyptian using picture-writing called hieroglyphs. Until its discovery, no one in the world knew how to read the hieroglyphs that covered every temple and text and statue in Egypt. Dominating the world for thirty centuries, ancient Egypt was the mightiest empire the world had ever known, yet everything about it--the pyramids, mummies, the Sphinx--was shrouded in mystery. Whoever was able to decipher the Rosetta Stone, and learn how to read hieroglyphs, would solve that mystery and fling open a door that had been locked for two thousand years. Two brilliant rivals set out to win that prize. One was English, the other French, at a time when England and France were enemies and the world's two great superpowers. The Writing of the Gods chronicles this high-stakes intellectual race in which the winner would win glory for both himself and his nation. A riveting portrait of empires both ancient and modern, this is an unparalleled look at the culture and history of ancient Egypt

and a fascinating, fast-paced story of human folly and discovery unlike any other.

Nobel laureate Steven Weinberg has written that "all that has happened since 1687 is a gloss on the Principia." Now you too can appreciate the significance of this stellar work, regarded by many as the greatest scientific contribution of all time. Despite its dazzling reputation, Isaac Newton's *Philosophiæ Naturalis Principia Mathematica*, or simply the *Principia*, remains a mystery for many people. Few of even the most intellectually curious readers, including professional scientists and mathematicians, have actually looked in the *Principia* or appreciate its contents. Mathematician Pask seeks to remedy this deficit in this accessible guided tour through Newton's masterpiece. Using the final edition of the *Principia*, Pask clearly demonstrates how it sets out Newton's (and now our) approach to science; how the framework of classical mechanics is established; how terrestrial phenomena like the tides and projectile motion are explained; and how we can understand the dynamics of the solar system and the paths of comets. He also includes scene-setting chapters about Newton himself and scientific developments in his time, as well as chapters about the reception and influence of the *Principia* up to the present day. From the Hardcover edition.

Relates the history of the human search for an understanding of the motions of the moon and planets against the backdrop of the stars Already famous throughout Europe for his theories of planetary motion and gravity, Isaac Newton decided to take on the job of running the Royal Mint. And there, Newton became drawn into a battle with William Chaloner, the most skilful of counterfeiters, a man who not only got away with faking His Majesty's coins (a crime that the law equated with treason), but was trying to take over the Mint itself. But Chaloner had no idea who he was taking on. Newton pursued his enemy with the cold, implacable logic that he brought to his scientific research. Set against the backdrop of early eighteenth-century London with its sewers running down the middle of the streets, its fetid rivers, its packed houses, smoke and fog, its industries and its great port, this dark tale of obsession and revenge transforms our image of Britain's greatest scientist.

In 1609 Galileo first used his telescope to kick start the science of observational astronomy - an event that proved to be of enormous historic, scientific, and cultural importance. Galileo and 400 Years of Telescopic Astronomy will feature the life and achievements of Galileo, around which has pivoted the story of four centuries of telescopic astronomy. The book will detail how astronomy has progressed through four centuries and contain glimpses of future space research and astronomy goals. Uniquely, interwoven with the text will be a range of practical projects for backyard astronomers in which to participate, projects that serve to illustrate many of Galileo's scientific discoveries.

In a world of chaos and disease, one group of driven, idiosyncratic geniuses envisioned a universe that ran like clockwork. They were the Royal Society, the men who made the modern world. At the end of the seventeenth century, sickness was divine punishment, astronomy and astrology were indistinguishable, and the world's most brilliant, ambitious, and curious scientists were tormented by contradiction. They believed in angels, devils, and alchemy yet also believed that the universe followed precise mathematical laws that were as intricate and perfectly regulated as the mechanisms of a great clock. *The Clockwork Universe* captures these monolithic thinkers as they wrestled with nature's most sweeping mysteries. Award-winning writer Edward Dolnick illuminates the fascinating personalities of Newton, Leibniz, Kepler, and others, and vividly animates their momentous struggle during an era when little was known and everything was new—battles of will, faith, and intellect that would change the course of history itself.

In this original, sweeping, and intimate biography, Gleick moves between a comprehensive historical portrait and a dramatic focus on Newton's significant letters and unpublished notebooks to illuminate the real importance of his work.

An engaging new history of the Royal Society of London, the club that created modern scientific thought Founded in 1660 to advance knowledge through experimentally verified facts, The Royal Society of London is now one of the preeminent scientific institutions of the world. It published the world's first science journal, and has counted scientific luminaries from Isaac Newton to Stephen Hawking among its members. However, the road to truth was often bumpy. In its early years-while bickering, hounding its members for dues, and failing to create its own museum-members also performed sheep to human blood transfusions, and experimented with unicorn horns. In his characteristically accessible and lively style, Adrian Tinniswood charts the Society's evolution from poisoning puppies to the discovery of DNA, and reminds us of the increasing relevance of its motto for the modern world: *Nullius in Verba*-Take no one's word for it.

Science is about 6000 years old while physics emerged as a distinct branch some 2500 years ago. As scientists discovered virtually countless facts about the world during this great span of time, the manner in which they explained the underlying structure of that world underwent a philosophical evolution. From *Clockwork* to *Crapshoot* provides the perspective needed to understand contemporary developments in physics in relation to philosophical traditions as far back as ancient Greece. Roger Newton, whose previous works have been widely praised for erudition and accessibility, presents a history of physics from the early beginning to our day--with the associated mathematics, astronomy, and chemistry. Along the way, he gives brief explanations of the scientific concepts at issue, biographical thumbnail sketches of the protagonists, and descriptions of the changing instruments that enabled scientists to make their discoveries. He traces a profound change from a deterministic explanation of the world--accepted at least since the time of the ancient Greek and Taoist Chinese civilizations--to the notion of probability, enshrined as the very basis of science with the quantum revolution at the beginning of the twentieth century. With this change, Newton finds another fundamental shift in the focus of physicists--from the cause of dynamics or motion to the basic structure of the world. His work identifies what may well be the defining characteristic of physics in the twenty-first century.

Richard Feynman once quipped that "Time is what happens when nothing else does." But Julian Barbour disagrees: if nothing happened, if nothing changed, then time would stop. For time is nothing but change. It is change that we perceive occurring all around us, not time. Put simply, time does not exist. In this highly provocative volume, Barbour presents the basic evidence for a timeless universe, and shows why we still experience the world as intensely temporal. It is a book that strikes at the heart of modern physics. It casts doubt on Einstein's greatest contribution, the spacetime continuum, but also points to the solution of one of the great paradoxes of modern science, the chasm between classical and quantum physics. Indeed, Barbour argues that the holy grail of physicists--the unification of Einstein's general relativity with quantum mechanics--may well spell the end of time. Barbour writes with remarkable clarity as he ranges from the ancient philosophers Heraclitus and Parmenides, through the giants of science Galileo, Newton, and Einstein, to the work of the contemporary physicists John Wheeler, Roger Penrose, and Steven Hawking. Along the way he treats us to enticing glimpses of some of the mysteries of the universe, and presents intriguing ideas about multiple worlds, time travel, immortality, and, above all, the illusion of motion. *The End of Time* is a vibrantly written and revolutionary book. It turns our understanding of reality inside-out.

A Scientific American Best Science Book of 2012 An Atlantic Wire Best Book of 2012 A New York Times Book Review "Editor's Choice" The "fascinating" (The New Yorker) story of Athanasius Kircher, the eccentric scholar-inventor who was either a great genius or a crackpot . . . or a bit of both. The interests of Athanasius Kircher, the legendary seventeenth-century priest-scientist, knew no bounds. From optics to music to magnetism to medicine, he offered up inventions and theories for everything, and they made him famous across Europe. His celebrated museum in Rome featured magic lanterns, speaking statues, the tail of a mermaid, and a brick from the Tower of Babel. Holy Roman Emperors were his patrons, popes were his friends, and in his spare time he collaborated with the Baroque master Bernini. But Kircher lived during an era of radical transformation, in which the old approach to knowledge—what he called the "art of knowing"—was giving way to the scientific method and modern thought. A Man

of Misconceptions traces the rise, success, and eventual fall of this fascinating character as he attempted to come to terms with a changing world. With humor and insight, John Glassie returns Kircher to his rightful place as one of history's most unforgettable figures.

An insightful look at ambigrams--words that are unchanged when inverted or reflected--shows how the shape of the letters can lend meaning to the word. Reprint. 40,000 first printing.

"Bryson is as amusing as ever....As a celebration of 350 years of modern science, [Seeing Further] it is a worthy tribute." —The Economist In Seeing Further, New York Times bestseller Bill Bryson takes readers on a guided tour through the great discoveries, feuds, and personalities of modern science. Already a major bestseller in the UK, Seeing Further tells the fascinating story of science and the Royal Society with Bill Bryson's trademark wit and intelligence, and contributions from a host of well known scientists and science fiction writers, including Richard Dawkins, Neal Stephenson, James Gleick, and Margret Atwood. It is a delightful literary treat from the acclaimed author who previous explored the current state of scientific knowledge in his phenomenally popular book, A Short History of Nearly Everything.

For centuries the prevailing western worldview has been built upon the materialistic, mechanical model of Isaac Newton - a clockwork Universe composed of separate particles of matter interacting according to precise physical laws and existing within objective dimensions of space and time. This model has long succeeded in describing many facets of our multi-faceted reality, but increasingly since the revelations of Einstein and the paradigm-crushing implications of quantum physics, Newton's world is quietly fading from view and being replaced by a more spiritual science. Topics covered include: Quantum Physics, Consciousness, The Holographic Universe, Morphic Fields, The Human Energy Body, Psychoneuroimmunology, Chi, Chakras, Meridians, Acupuncture, Auras, Telepathy, Psychokinesis, Remote Viewing, Precognition, Out of Body Experiences, Near Death Experiences, Entheogens, Death, Ghosts, Reincarnation, God, Tao, Brahma, Void, Infinite Consciousness, and Oneness One of the world's most beloved and bestselling writers takes his ultimate journey -- into the most intriguing and intractable questions that science seeks to answer. In A Walk in the Woods, Bill Bryson trekked the Appalachian Trail -- well, most of it. In In A Sunburned Country, he confronted some of the most lethal wildlife Australia has to offer. Now, in his biggest book, he confronts his greatest challenge: to understand -- and, if possible, answer -- the oldest, biggest questions we have posed about the universe and ourselves. Taking as territory everything from the Big Bang to the rise of civilization, Bryson seeks to understand how we got from there being nothing at all to there being us. To that end, he has attached himself to a host of the world's most advanced (and often obsessed) archaeologists, anthropologists, and mathematicians, travelling to their offices, laboratories, and field camps. He has read (or tried to read) their books, pestered them with questions, apprenticed himself to their powerful minds. A Short History of Nearly Everything is the record of this quest, and it is a sometimes profound, sometimes funny, and always supremely clear and entertaining adventure in the realms of human knowledge, as only Bill Bryson can render it. Science has never been more involving or entertaining.

This volume examines the way in which cultural ideas about "the heavens" shape religious ideas and are shaped by them in return. Our approaches to cosmology have a profound effect on the way in which we each deal with religious questions and participate in the imaginative work of public and private world-building. Employing an interdisciplinary team of international scholars, each chapter shows how religion and cosmology interrelate and matter for real people. Historical and contemporary case studies are included to demonstrate the lived reality of a variety of faith traditions and their interactions with the cosmos. This breadth of scope allows readers to get a unique overview of how religion, science and our view of space have, and will continue to, impact our worldviews. Offering a comprehensive exploration of humanity and its relationship with cosmology, this book will be an important reference for scholars of Religion and Science, Religion and Culture, Interreligious Dialogue and Theology, as well as those interested in Science and Culture and Public Education.

Isaac Newton was indisputably one of the greatest scientists in history. His achievements in mathematics and physics marked the culmination of the movement that brought modern science into being. Richard Westfall's biography captures in engaging detail both his private life and scientific career, presenting a complex picture of Newton the man, and as scientist, philosopher, theologian, alchemist, public figure, President of the Royal Society, and Warden of the Royal Mint. An abridged version of his magisterial study *Never at Rest* (Cambridge, 1980), this concise biography makes Westfall's highly acclaimed portrait of Newton newly accessible to general readers.

A surprising true story of Isaac Newton's boyhood suggests an intellectual development owing as much to magic as science. Before Isaac Newton became the father of physics, an accomplished mathematician, or a leader of the scientific revolution, he was a boy living in an apothecary's house, observing and experimenting, recording his observations of the world in a tiny notebook. As a young genius living in a time before science as we know it existed, Isaac studied the few books he could get his hands on, built handmade machines, and experimented with alchemy—a process of chemical reactions that seemed, at the time, to be magical. Mary Losure's riveting narrative nonfiction account of Isaac's early life traces his development as a thinker from his childhood, in friendly prose that will capture the attention of today's budding scientists—as if by magic. Back matter includes an afterword, an author's note, source notes, and a bibliography.

A first installment of a series in which the planets are run by a sophisticated clockwork solar system that connects everyday people to the Creator, a young clockmaker's apprentice is appointed by the Archangel Gabriel to rewind the Earth's Mainspring to prevent a disaster. Reprint.

This book, in language accessible to the general reader, investigates twelve of the most notorious, most interesting, and most instructive episodes involving the interaction between science and Christianity, aiming to tell each story in its historical specificity and local particularity. Among the events treated in *When Science and Christianity Meet* are the Galileo affair, the seventeenth-century clockwork universe, Noah's ark and flood in the development of natural history, struggles over Darwinian evolution, debates about the origin of the human species, and the Scopes trial. Readers will be introduced to St. Augustine, Roger Bacon, Pope Urban VIII, Isaac Newton, Pierre-Simon de Laplace, Carl Linnaeus, Charles Darwin, T. H. Huxley, Sigmund Freud, and many other participants in the historical drama of science and Christianity. "Taken together, these papers provide a comprehensive survey of current thinking on key issues in the relationships between science and religion, pitched—as the editors intended—at just the right level to appeal to students."—Peter J. Bowler, *Isis*

Today, a scientific explanation is not meant to ascribe agency to natural phenomena: we would not say a rock falls because it seeks the center of the earth. Even for living things, in the natural sciences and often in the social sciences, the same is true. A

modern botanist would not say that plants pursue sunlight. This has not always been the case, nor, perhaps, was it inevitable. Since the seventeenth century, many thinkers have made agency, in various forms, central to science. The Restless Clock examines the history of this principle, banning agency, in the life sciences. It also tells the story of dissenters embracing the opposite idea: that agency is essential to nature. The story begins with the automata of early modern Europe, as models for the new science of living things, and traces questions of science and agency through Descartes, Leibniz, Lamarck, and Darwin, among many others. Mechanist science, Jessica Riskin shows, had an associated theology: the argument from design, which found evidence for a designer in the mechanisms of nature. Rejecting such appeals to a supernatural God, the dissenters sought to naturalize agency rather than outsourcing it to a "divine engineer." Their model cast living things not as passive but as active, self-making machines. The conflict between passive- and active-mechanist approaches maintains a subterranean life in current science, shaping debates in fields such as evolutionary biology, cognitive science, and artificial intelligence. This history promises not only to inform such debates, but also our sense of the possibilities for what it means to engage in science—and even what it means to be alive.

Newton's heretical yet equation-incisive writings on theology, spirituality, alchemy, and prophecy, written in secret alongside his Principia Mathematica • Shows how Newton's brilliance extended far beyond math and science into alchemy, spirituality, prophecy, and the search for lost continents such as Atlantis • Explains how he was seeking to rediscover the one true religion that existed prior to the Flood of Noah, when science and spirituality were one • Examines Newton's alternate timeline of prehistory and his study of prophecy through the Book of Revelations, including his prediction of Apocalypse in the year 2060 Isaac Newton (1643-1727) is still regarded by the world as the greatest scientist who ever lived. He invented calculus, discovered the binomial theorem, explained the rainbow, built the first reflecting telescope, and explained the force of gravity. In his famous masterpiece, Principia Mathematica, he described the mechanics of the physical universe with unimagined precision, proving the cosmos was put together according to laws. The perfection of these laws implied a perfect legislator. To Newton, they were proof that God existed. At the same time Newton was writing Principia Mathematica, he was writing a twin volume that he might have called, had it been completed, Principia Theologia--Principles of Theology. This other masterpiece of Newton, kept secret because of the heresies it contained, consists of thousands of essays providing equation-incisive answers to the spiritual questions that have plagued mankind through the ages. Examining Newton's secret writings, John Chambers shows how his brilliance extended into alchemy, spirituality, the search for lost continents such as Atlantis, and a quest to uncover the "corrupted texts" that were rife in the Bibles of his time. Although he was a devout Christian, Newton's work on the Bible was focused not on restoring the original Jewish and Christian texts but on rediscovering the one true religion that existed prior to the Flood of Noah, when science and spirituality were one. The author shows that a single thread runs through Newton's metaphysical explorations: He is attempting to chart the descent of man's soul from perfection to the present day. The author also examines Newton's alternate timeline of ancient history and his study of prophecy through the Book of Revelations, including his prediction of an Apocalypse in the year 2060 followed by a radically transformed world. He shows that Newton's great hope was that these writings would provide a moral compass for humanity as it embarked upon the great enterprise that became our technological world.

New York Times bestselling author Edward Dolnick brings to light the true story of one of the most pivotal moments in modern intellectual history—when a group of strange, tormented geniuses invented science as we know it, and remade our understanding of the world. Dolnick's earth-changing story of Isaac Newton, the Royal Society, and the birth of modern science is at once an entertaining romp through the annals of academic history, in the vein of Bill Bryson's A Short History of Nearly Everything, and a captivating exploration of a defining time for scientific progress, in the tradition of Richard Holmes' The Age of Wonder.

An entertaining, accessible biography of Humphry Davy, professional scientist, inventor, and poet.

A riveting portrait of the Gold Rush, by the award-winning author of Down the Great Unknown and The Forger's Spell. In the spring of 1848, rumors began to spread that gold had been discovered in a remote spot in the Sacramento Valley. A year later, newspaper headlines declared "Gold Fever!" as hundreds of thousands of men and women borrowed money, quit their jobs, and allowed themselves- for the first time ever-to imagine a future of ease and splendor. In THE RUSH, Edward Dolnick brilliantly recounts their treacherous westward journeys by wagon and on foot, and takes us to the frenzied gold fields and the rowdy cities that sprang from nothing to jam-packed chaos. With an enthralling cast of characters and scenes of unimaginable wealth and desperate ruin, THE RUSH is a fascinating-and rollicking-account of the greatest treasure hunt the world has ever seen.

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