

## Making Modern Science A Historical Survey

*Opening a window on a dynamic realm far beyond imperial courts, anatomical theaters, and learned societies, Pablo F. Gomez examines the strategies that Caribbean people used to create authoritative, experientially based knowledge about the human body and the natural world during the long seventeenth century. Gomez treats the early modern intellectual culture of these mostly black and free Caribbean communities on its own merits and not only as it relates to well-known frameworks for the study of science and medicine. Drawing on an array of governmental and ecclesiastical sources—notably Inquisition records—Gomez highlights more than one hundred black ritual practitioners regarded as masters of healing practices and as social and spiritual leaders. He shows how they developed evidence-based healing principles based on sensorial experience rather than on dogma. He elucidates how they nourished ideas about the universality of human bodies, which contributed to the rise of empirical testing of disease origins and cures. Both colonial authorities and Caribbean people of all conditions viewed this experiential knowledge as powerful and competitive. In some ways, it served to respond to the ills of slavery. Even more crucial, however, it demonstrates how the black Atlantic helped creatively to fashion the early modern world.*

*In this new edition of the top-selling coursebook, seasoned historians Peter J. Bowler and Iwan Rhys Morus expand on their authoritative survey of how the development of science has shaped our world. Exploring both the history of science and its influence on modern thought, the authors chronicle the major developments in scientific thinking, from the revolutionary ideas of the seventeenth century to contemporary issues in genetics, physics, and more. Thoroughly revised and expanded, the second edition draws on the latest research and scholarship. It also contains two entirely new chapters: one that explores the impact of computing on the development of science, and another that shows how the West used science and technology as tools for geopolitical expansion. Designed for entry-level college courses and as a single-volume introduction for the general reader, Making Modern Science presents the history of science not as a series of names and dates, but as an interconnected and complex web of relationships joining science and society.*

*The Not-So-Dark Dark Ages What they forgot to teach you in school: People in the Middle Ages did not think the world was flat The Inquisition never executed anyone because of their scientific ideologies It was medieval scientific discoveries, including various methods, that made possible Western civilization’s “Scientific Revolution” As a physicist and historian of science James Hannam debunks myths of the Middle Ages in his brilliant book The Genesis of Science: How the Christian Middle Ages Launched the Scientific Revolution. Without the medieval scholars, there would be no modern science. Discover the Dark Ages and their inventions, research methods, and what conclusions they actually made about the shape of the world. Throughout the history of the Western world, science has possessed an extraordinary amount of authority and prestige. And while its pedestal has been jostled by numerous evolutions and revolutions, science has always managed to maintain its stronghold as the knowing enterprise that explains how the natural world works: we treat such legendary scientists as Galileo, Newton, Darwin, and Einstein with admiration and reverence because they offer profound and sustaining insight into the meaning of the universe. In The Intelligibility of Nature, Peter Dear considers how science as such has evolved and how it has marshaled itself to make sense of the world. His intellectual journey begins with a crucial observation: that the enterprise of science is, and has been, directed toward two distinct but frequently conflated ends—doing and knowing. The ancient Greeks developed this distinction of value between craft on the one hand and understanding on the other, and according to Dear, that distinction has survived to shape attitudes toward science ever since. Teasing out this tension between doing and knowing during key episodes in the history of science—mechanical philosophy and Newtonian gravitation, elective affinities and the chemical revolution, enlightened natural history and taxonomy, evolutionary biology, the dynamical theory of electromagnetism, and quantum theory—Dear reveals how the two principles became formalized into a single enterprise, science, that would be carried out by a new kind of person, the scientist. Finely nuanced and elegantly conceived, The Intelligibility of Nature will be essential reading for aficionados and historians of science alike.*

*From Philosophy to Utility, Second Edition*

*The Intelligibility of Nature*

*The History of an Idea, 25th Anniversary Edition, With a New Preface*

*How Modern Science Came Into the World*

*A History of the Environmental Sciences*

*Creating Knowledge and Healing in the Early Modern Atlantic*

*The Rise of Modern Science Explained*

Lost Discoveries, Dick Teresi's innovative history of science, explores the unheralded scientific breakthroughs from peoples of the ancient world -- Babylonians, Egyptians, Indians, Africans, New World and Oceanic tribes, among others -- and the non-European medieval world. They left an enormous heritage in the fields of mathematics, astronomy, cosmology, physics, geology, chemistry, and technology. The mathematical foundation of Western science is a gift from the Indians, Chinese, Arabs, Babylonians, and Maya. The ancient Egyptians developed the concept of the lowest common denominator, and they developed a fraction table that modern scholars estimate required 28,000 calculations to compile. The Babylonians developed the first written math and used a place-value number system. Our numerals, 0 through 9, were invented in ancient India; the Indians also boasted geometry, trigonometry, and a kind of calculus. Planetary astronomy as well may have begun with the ancient Indians, who correctly identified the relative distances of the known planets from the sun, and knew the moon was nearer to the earth than the sun was. The Chinese observed, reported, dated, recorded, and interpreted eclipses between 1400 and 1200 b.c. Most of the names of our stars and constellations are Arabic. Arabs built the first observatories. Five thousand years ago, the Sumerians said the earth was circular. In the sixth century, a Hindu astronomer taught that the daily rotation of the earth on its axis provided the rising and setting of the sun. Chinese and Arab scholars were the first to use fossils scientifically to trace earth's history. Chinese alchemists realized that most physical substances were merely combinations of other substances, which could be mixed in different proportions. Islamic scholars are legendary for translating scientific texts of many languages into Arabic, a tradition that began with alchemical books. In the eleventh century, Avicenna of Persia divined that outward qualities of metals were of little value in classification, and he stressed internal structure, a notion anticipating Mendelejev's periodic chart of elements. Iron suspension bridges came from Kashmir, printing from India; papermaking was from China, Tibet, India, and Baghdad; movable type was invented by Pi Sheng in about 1041; the Quechuan Indians of Peru were the first to vulcanize rubber; Andean farmers were the first to freeze-dry potatoes. European explorers depended heavily on Indian and Filipino shipbuilders, and collected maps and sea charts from Javanese and Arab merchants. The first comprehensive, authoritative, popularly written, multicultural history of science, Lost Discoveries fills a crucial gap in the history of science.

For centuries, laymen and priests, lone thinkers and philosophical schools in Greece, China, the Islamic world and Europe reflected with wisdom and perseverance on how the natural world fits together. As a rule, their methods and conclusions, while often ingenious, were misdirected when viewed from the perspective of modern science. In the 1600s thinkers such as Galileo, Kepler, Descartes, Bacon and many others gave revolutionary new twists to traditional ideas and practices, culminating in the work of Isaac Newton half a century later. It was as if the world was being created anew. But why did this recreation begin in Europe rather than elsewhere? This book caps H. Floris Cohen's career-long effort to find answers to this classic question. Here he sets forth a rich but highly accessible account of what, against many odds, made it happen and why.

This history of the birth of modern science shatters the illusion that science is 'dry' and divorced from culture by exploring the powerful clashes between traditions and value systems that gave rise to it. The author shows how many of the characteristics that distinguish science today emerged in the midst of the wars and plagues of the seventeenth century and defines what was new about this form of knowledge.

"Making Modern Science: A Historical Survey is a top selling coursebook designed for entry-level college classes in the history of science and as a single-volume introduction for the general reader. Exploring both the history of science and its influence on modern thought, this general survey chronicles all major developments in scientific thinking, from the revolutionary ideas of the seventeenth century to contemporary issues in genetics, physics, and more. First published fifteen years ago, this revised edition is not only updated to reflect the latest scholarship, it also contains two entirely new chapters: on computing, and empire"--

Relocating Modern Science

A History of Science in Society

The Discovery of Modern Science

Translating Early Modern Science

A Cultural History of Modern Science in China

The Ancient Roots of Modern Science--from the Baby

The History of a Scientific Journal

How did the fact become modernity's most favored unit of knowledge? How did description come to seem separable from theory in the precursors of economics and the social sciences? Mary Poovey explores these questions in A History of the Modern Fact, ranging across an astonishing array of texts and ideas from the publication of the first British manual on double-entry bookkeeping in 1588 to the institutionalization of statistics in the 1830s. She shows how the production of systematic knowledge from descriptions of observed particulars influenced government, how numerical representation became the privileged vehicle for generating useful facts, and how belief—whether figured as credit, credibility, or credulity—remained essential to the production of knowledge. Illuminating the epistemological conditions that have made modern social and economic knowledge possible, A History of the Modern Fact provides important contributions to the history of political thought, economics, science, and philosophy, as well as to literary and cultural criticism.

Offers 609 articles by more than two hundred scholars covering the history of science from the Renaissance to the beginning of the twenty-first century.

Traces the history and development of geology, geography, ecology, evolutionary theory, and other disciplines, from the ancient and medieval worlds to the present. Reprint.

Recent scholarship has revealed that pioneering Victorian scientists endeavored through voluminous writing to raise public interest in science and its implications. But it has generally been assumed that once science became a profession around the turn of the century, this new generation of scientists turned its collective back on public outreach. Science for All debunks this apocryphal notion. Peter J. Bowler surveys the books, serial works, magazines, and newspapers published between 1900 and the outbreak of World War II to show that practicing scientists were very active in writing about their work for a general readership. Science for All argues that the social environment of early twentieth-century Britain created a substantial market for science books and magazines aimed at those who had benefited from better secondary education but could not access higher learning. Scientists found it easy and profitable to write for this audience, Bowler reveals, and because their work was seen as educational, they faced no hostility from their peers. But when admission to colleges and universities became more accessible in the 1960s, this market diminished and professional scientists began to lose interest in writing at the nonspecialist level. Eagerly anticipated by scholars of scientific engagement throughout the ages, Science for All sheds light on our own era and the continuing tension between science and public understanding.

The Genesis of Science

A History of the Modern Fact

The Social Origins of Modern Science

From Antiquity to the Scientific Revolution

A Comparative History

How the Christian Middle Ages Launched the Scientific Revolution

Writing the History of Nineteenth-Century Science

*"Translating Early Modern Science explores the roles of translation and the practices of translators in early modern Europe. In a period when multiple European vernaculars challenged the hegemony long held by Latin as the language of learning, translation assumed a heightened significance. This volume illustrates how the act of translating texts and images was an essential component in the circulation and exchange of scientific knowledge. It also makes apparent that translation was hardly ever an end in itself; rather it was also a livelihood, a way of promoting the translator's own ideas, and a means of establishing the connections that in turn constituted far-reaching scientific networks"--Provided by publisher.*

*Making Modern Science*A Historical SurveyUniversity of Chicago Press

*Making "Nature" is the first book to chronicle the foundation and development of Nature, one of the world's most influential scientific institutions. Now nearing its hundred and fiftieth year of publication, Nature is the international benchmark for scientific publication. Its contributors include Charles Darwin, Ernest Rutherford, and Stephen Hawking, and it has published many of the most important discoveries in the history of science, including articles on the structure of DNA, the discovery of the neutron, the first cloning of a mammal, and the human genome. But how did Nature become such an essential institution? In Making "Nature," Melinda Baldwin charts the rich history of this extraordinary publication from its foundation in 1869 to current debates about online publishing and open access. This pioneering study not only tells Nature's story but also sheds light on much larger questions about the history of science publishing, changes in scientific communication, and shifting notions of "scientific community." Nature, as Baldwin demonstrates, helped define what science is and what it means to be a scientist.*

*The Origins of Modern Science is the first synthetic account of the history of science from antiquity through the Scientific Revolution in many decades. Providing readers of all backgrounds and students of all disciplines with the tools to study science like a historian, Ofer Gal covers everything from Pythagorean mathematics to Newton's Principia, through Islamic medicine, medieval architecture, global commerce and magic. Richly illustrated throughout, scientific reasoning and practices are introduced in accessible and engaging ways with an emphasis on the complex relationships between institutions, beliefs and political structures and practices. Readers gain valuable new insights into the role that science plays both in history and in the world today, placing the crucial challenges to science and technology of our time within their historical and cultural context.*

*Thrifty Science*

*Making the Most of Materials in the History of Experiment*

*How Science Makes Sense of the World*

*A Historical Survey*

*Gender in the Making of Modern Science*

*Evolution*

*Companion to the History of Modern Science*

A wide-ranging exploration of how music has influenced science through the ages, from fifteenth-century cosmology to twentieth-century string theory. In the natural science of ancient Greece, music formed the meeting place between numbers and perception; for the next two millennia, Pesic tells us in Music and the Making of Modern Science, "liberal education" connected music with arithmetic, geometry, and astronomy within a fourfold study, the quadrivium. Peter Pesic argues provocatively that music has had a formative effect on the development of modern science—that music has been not just a charming accompaniment to thought but a conceptual force in its own right. Pesic explores a series of episodes in which music influenced science, moments in which prior developments in music arguably affected subsequent aspects of natural science. He describes encounters between harmony and fifteenth-century cosmological controversies, between musical initiatives and irrational numbers, between vibrating bodies and the emergent electromagnetism. He offers lively accounts of how Newton applied the musical scale to define the colors in the spectrum; how Euler and others applied musical ideas to develop the wave theory of light; and how a harmonium prepared Max Planck to find a quantum theory that reengaged the mathematics of vibration. Taken together, these cases document the peculiar power of music—its autonomous force as a stream of experience, capable of stimulating insights different from those mediated by the verbal and the visual. An innovative e-book edition available for iOS devices will allow sound examples to be played by a touch and shows the score in a moving line.

Here, for the first time, is a single volume in English that contains all the important/historical essays Edgar Zilsel (1891-1944) published during WWII on the emergence of modern science. It also contains one previously unpublished essay and an extended version of an essay published earlier. This volume is unique in its well-articulated social perspective on the origins of modern science and is of major interest to students in early modern social history/history of science, professional philosophers, historians, and sociologists of science.

Since its original publication in 1989, Evolution: The History of an Idea has been recognized as a comprehensive and authoritative source on the development and impact of this most controversial of scientific theories. This twentieth anniversary edition is updated with a new preface examining recent scholarship and trends within the study of evolution.

The history of the modern sciences has long overlooked the significance of domesticity as a physical, social, and symbolic force in the shaping of knowledge production. This book provides a welcome reorientation to our understanding of the making of the modern sciences globally by emphasizing the centrality of domesticity in diverse scientific enterprises.

How the Medieval World Laid the Foundations of Modern Science

Domesticity in the Making of Modern Science

God's Philosophers

How Magic, the Government and an Apocalyptic Vision Helped Francis Bacon to Create Modern Science

Science, Technology, Medicine and Modernity: 1789 - 1914

The Origins of Modern Science

Relocating Modern Science challenges the belief that modern science was created uniquely in the West and was subsequently diffused elsewhere. Through a detailed analysis of key moments in the history of science, it demonstrates the crucial roles of circulation and intercultural encounter for their emergence.

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

“The Knowledge Machine is the most stunningly illuminating book of the last several decades regarding the all-important scientific enterprise.” —Rebecca Newberger Goldstein, author of Plato at the Googleplex
A paradigm-shifting work, The Knowledge Machine revolutionizes our understanding of the origins and structure of science.
• Why is science so powerful?
• Why did it take so long—two thousand years after the invention of philosophy and mathematics—for the human race to start using science to learn the secrets of the universe?
In a groundbreaking work that blends science, philosophy, and history, leading philosopher of science Michael Strevens answers these challenging questions, showing how science came about only once thinkers stumbled upon the astonishing idea that scientific breakthroughs could be accomplished by breaking the rules of logical argument. Like such classic works as Karl Popper’s The Logic of Scientific Discovery and Thomas Kuhn’s The Structure of Scientific Revolutions, The Knowledge Machine grapples with the meaning and origins of science, using a plethora of vivid historical examples to demonstrate that scientists willfully ignore religion, theoretical beauty, and even philosophy to embrace a constricted code of argument whose very narrowness channels unprecedented energy into empirical observation and experimentation. Strevens calls this scientific code the iron rule of explanation, and reveals the way in which the rule, precisely because it is unreasonably close-minded, overcomes individual prejudices to lead humanity inexorably toward the secrets of nature. “With a mixture of philosophical and historical argument, and written in an engrossing style” (Alan Ryan), The Knowledge Machine provides captivating portraits of some of the greatest luminaries in science’s history, including Isaac Newton, the chief architect of modern science and its foundational theories of motion and gravitation; William Whewell, perhaps the greatest philosopher-scientist of the early nineteenth century; and Murray Gell-Mann, discoverer of the quark. Today, Strevens argues, in the face of threats from a changing climate and global pandemics, the idiosyncratic but highly effective scientific knowledge machine must be protected from politicians, commercial interests, and even scientists themselves who seek to open it up, to make it less narrow and more rational—and thus to undermine its devotedly empirical search for truth. Rich with illuminating and often delightfully quirky illustrations, The Knowledge Machine, written in a winningly accessible style that belies the import of its revisionist and groundbreaking concepts, radically reframes much of what we thought we knew about the origins of the modern world.

The 67 chapters of this book describe and analyse the development of Western science from 1500 to the present day. Divided into two major sections - 'The Study of the History of Science' and 'Selected Writings in the History of Science' - the volume describes the methods and problems of research in the field and then applies these techniques to a wide range of fields. Areas covered include:
\* the Copernican Revolution
\* Genetics
\* Science and Imperialism
\* the History of Anthropology
\* Science and Religion
\* Magic and Science. The companion is an indispensable resource for students and professionals in History, Philosophy, Sociology and the Sciences as well as the History of Science. It will also appeal to the general reader interested in an introduction to the subject.

Problems of Knowledge in the Sciences of Wealth and Society

The Birth of Modern Science

From Natural Philosophy to the Sciences

Making Modern Science

To Explain the World

A Shadow History of Demons in Science

Their Religious, Institutional and Intellectual Contexts

The development of science, according to respected scholars Peter J. Bowler and Iwan Rhys Morus, expands our knowledge and control of the world in ways that affect-but are also affected by-society and culture. In Making Modern Science, a text designed for introductory college courses in the history of science and as a single-volume introduction for the general reader, Bowler and Morus explore both the history of science itself and its influence on modern thought. Opening with an introduction that explains developments in the history of science over the last three decades and the controversies these initiatives have engendered, the book then proceeds in two parts. The first section considers key episodes in the development of modern science, including the Scientific Revolution and individual accomplishments in geology, physics, and biology. The second section is an analysis of the most important themes stemming from the social relations of science-the discoveries that force society to rethink its religious, moral, or philosophical values. Making Modern Science thus chronicles all major developments in scientific thinking, from the revolutionary ideas of the seventeenth century to the contemporary issues of evolutionism, genetics, nuclear physics, and modern cosmology. Written by seasoned historians, this book will encourage students to see the history of science not as a series of names and dates but as an interconnected and complex web of relationships between science and modern society. The first survey of its kind, Making Modern Science is a much-needed and accessible introduction to the history of science, engagingly written for undergraduates and curious readers alike.

Of all the inventions of the nineteenth century, the scientist is one of the most striking. In revolutionary France the science student, taught by men active in research, was born; and a generation later, the graduate student doing a PhD emerged in Germany. In 1833 the word 'scientist' was coined; forty years later science (increasingly specialised) was a becoming a profession. Men of science rivalled clerics and critics as sages; they were honoured as national treasures, and buried in state funerals. Their new ideas invigorated the life of the mind. Peripatetic congresses, great exhibitions, museums, technical colleges and laboratories blossomed; and new industries based on chemistry and electricity brought prosperity and power, economic and military. Eighteenth-century steam engines preceded understanding of the physics underlying them; but electric telegraphs and motors were applied science, based upon painstaking interpretation of nature. The ideas, discoveries and inventions of scientists transformed the world: lives were longer and healthier, cities and empires grew, societies became urban rather than agrarian, the local became global. And by the opening years of the twentieth century, science was spreading beyond Europe and North America, and women were beginning to be visible in the ranks of scientists. Bringing together the people, events, and discoveries of this exciting period into a lively narrative, this book will be essential reading both for students of the history of science and for anyone interested in the foundations of the world as we know it today.

This 1997 book views the substantive achievements of the Middle Ages as they relate to early modern science.

In A Cultural History of Modern Science in China, Elman has retold the story of the Jesuit impact on late imperial China, circa 1600-1800, and the Protestant era in early modern China from the 1840s to 1900 in a concise and accessible form ideal for the classroom.

Knowledge is Power (Icon Science)

The Making of Modern Science

The Scientific Revolution and the Origins of Modern Science

Bedeviled

The History of Modern Science

The Cambridge History of Science: Volume 3, Early Modern Science

Civility and Science in Seventeenth-Century England

Winner of the Ludwik Fleck Book Prize, Society for Social Studies of Science, 1995
“Schiebinger lays bare the cultural narratives that mix so easily with science. They are at the same time hilarious and eerie, silly and profoundly disturbing. Schiebinger is brilliant in showing how tales of gender and race are told in other guises.”--Thomas Laqueur, author of Making Sex: Body and Gender from the Greeks to Freud
“[Nature’s Body] is so wonderfully humorous and is done with such careful attention to detail, the reader cannot help but see the profound implications of the history of science for modern science. Indispensable for all anthropologists, historians, philosophers, and practitioners of science.”--Emily Martin, author of The Woman in the Body
Eighteenth-century natural historians created a peculiar, and peculiarly durable, vision of nature--one that embodied the sexual and racial tensions of that era. When plants were found to reproduce sexually, eighteenth-century botanists ascribed to them passionate relations, polyandrous marriages, and suicidal incest, and accounts of steamy plant sex began to infiltrate the botanical literature of the day.

Naturalists also turned their attention to the great apes just becoming known to eighteenth-century Europeans, clothing the females in silk vestments and training them to sip tea with the modest demeanor of English matrons, while imagining the males of the species fully capable of ravishing women. Written with humor and meticulous detail, Nature’s Body draws on these and other examples to uncover the ways in which assumptions about gender, sex, and race have shaped scientific explanations of nature. Schiebinger offers a rich cultural history of science and a timely and passionate argument that science must be restructured in order to get it right.

During the 19th century, much of the modern scientific enterprise took shape: scientific disciplines were formed, institutions and communities were founded and unprecedented applications to and interactions with other aspects of society and culture occurred. taught us about this exciting time and identify issues that remain unexamined or require reconsideration. They treat scientific disciplines - biology, physics, chemistry, the earth sciences, mathematics and the social sciences - in their specific intellectual and sociocultural contexts as well as the broader topics of science and medicine: science and religion; scientific institutions and communities; and science, technology and industry. From Natural Philosophy to the Sciences should be valuable for historians of science, but also of great interest to scholars of all aspects of 19th-century life and culture.

This is a concise but wide-ranging account of all aspects of the Scientific Revolution from astronomy to zoology. The third edition has been thoroughly updated, and some sections revised and extended, to take into account the latest scholarship and research and new developments in historiography.

How do we come to trust our knowledge of the world? What are the means by which we distinguish true from false accounts? Why do we credit one observational statement over another? In A Social History of Truth, Shapin engages these universal questions through an elegant recreation of a crucial period in the history of early modern science: the social world of gentlemen-philosophers in seventeenth-century England. Steven Shapin paints a vivid picture of the relations between gentlemanly culture and scientific practice. He argues that problems of credibility in science were practically solved through the codes and conventions of genteel conduct: trust, civility, honor, and integrity. These codes formed, and arguably still form, an important basis for securing reliable knowledge about the natural world. Shapin uses detailed historical narrative to argue about the establishment of factual knowledge both in science and in everyday practice. Accounts of the mores and manners of gentlemen-philosophers are used to illustrate Shapin's broad claim that trust is imperative for constituting every kind of knowledge. Knowledge-making is always a collective enterprise: people have to know whom to trust in order to know something about the natural world.

Lost Discoveries

The Earth Encompassed

A Guide to the Second Scientific Revolution, 1800-1950

Science for All

Making "Nature"

A Social History of Truth

The Popularization of Science in Early Twentieth-Century Britain

Francis Bacon - a leading figure in the history of science - never made a major discovery, provided a lasting explanation of any physical phenomena or revealed any hidden laws of nature. How then can he rank as he does alongside Newton? Bacon was the first major thinker to describe how science should be done, and to explain why. Scientific knowledge should not be gathered for its own sake but for practical benefit to mankind. And Bacon promoted experimentation, coming to outline and define the rigorous procedures of the 'scientific method' that today from the very bedrock of modern scientific progress. John Henry gives a dramatic account of the background to Bacon's innovations and the sometimes unconventional sources for his ideas. Why was he was so concerned to revolutionize the attitude to scientific knowledge - and why do his ideas for reform still resonate today?

Introduction -- Thrifty science: economy and experiment -- Making a home for experiment -- Shifty science: how to make use of things -- The power of lasting: maintenance and cleaning -- The broken world: repairs and recycling -- Secondhand science -- Auctions and the dismantling of science -- The palatial laboratory: economy and experiment -- Conclusion
An account of European knowledge of the natural world, c.1500-1700.

A masterful commentary on the history of science from the Greeks to modern times, by Nobel Prize-winning physicist Steven Weinberg—a thought-provoking and important book by one of the most distinguished scientists and intellectuals of our time. In this rich, irreverent, and compelling history, Nobel Prize-winning physicist Steven Weinberg takes us across centuries from ancient Miletus to medieval Baghdad and Oxford, from Plato’s Academy and the Museum of Alexandria to the cathedral school of Chartres and the Royal Society of London. He shows that the scientists of ancient and medieval times not only did not understand what we understand about the world—they did not understand what there is to understand, or how to understand it. Yet over the centuries, through the struggle to solve such mysteries as the curious backward movement of the planets and the rise and fall of the tides, the modern discipline of science eventually emerged. Along the way, Weinberg examines historic clashes and collaborations between science and the competing spheres of religion, technology, poetry, mathematics, and philosophy. An illuminating exploration of the way we consider and analyze the world around us, To Explain the World is a sweeping, ambitious account of how difficult it was to discover the goals and methods of modern science, and the impact of this discovery on human knowledge and development.

The Knowledge Machine: How Irrationality Created Modern Science

The Foundations of Modern Science in the Middle Ages

Circulation and the Construction of Knowledge in South Asia and Europe, 1650-1900

The Oxford Companion to the History of Modern Science

Nature’s Body

Making Modern Science, Second Edition

Music and the Making of Modern Science

**A History of Science in Society is a concise overview that introduces complex ideas in a non-technical fashion. Andrew Ede and Lesley B. Cormack trace the history of science through its continually changing place in society and explore the link between the pursuit of knowledge and the desire to make that knowledge useful. In this edition, the authors examine the robust intellectual exchange between East and West and provide new discussions of two women in science: Maria Merian and Maria Winkelmann. A chapter on the relationship between science and war has been added as well as a section on climate change. The further readings section has been updated to reflect recent contributions to the field. Other new features include timelines at the end of each chapter, 70 upgraded illustrations, and new maps of Renaissance Europe, Captain James Cook’s voyages, the 2nd voyage of the Beagle, and the main war front during World War I.**

**Once upon a time 'The Scientific Revolution of the 17th century' was an innovative concept that inspired a stimulating narrative of how modern science came into the world. Half a century later, what we now know as 'the master narrative' serves rather as a strait-jacket - so often events and contexts just fail to fit in. No attempt has been made so far to replace the master narrative. H. Floris Cohen now comes up with precisely such a replacement. Key to his path-breaking analysis-cum-narrative is a vision of the Scientific Revolution as made up of six distinct yet narrowly interconnected, revolutionary transformations, each of some twenty-five to thirty years' duration. This vision enables him to explain how modern science could come about in Europe rather than in Greece, China, or the Islamic world. It also enables him to explain how half-way into the 17th century a vast crisis of legitimacy could arise and, in the end, be overcome.**

**This is a powerful and a thrilling narrative history revealing the roots of modern science in the medieval world. The adjective 'medieval' has become a synonym for brutality and uncivilized behavior. Yet without the work of medieval scholars there could have been no Galileo, no Newton and no Scientific Revolution. In "God's Philosophers", James Hannam debunks many of the myths about the Middle Ages, showing that medieval people did not think the earth is flat, nor did Columbus 'prove' that it is a sphere; the Inquisition burnt nobody for their science nor was Copernicus afraid of persecution; no Pope tried to ban human dissection or the number zero. "God's Philosophers" is a celebration of the forgotten scientific achievements of the Middle Ages - advances which were often made thanks to, rather than in spite of, the influence of Christianity and Islam. Decisive progress was also made in technology: spectacles and the mechanical clock, for instance, were both invented in thirteenth-century Europe. Charting an epic journey through six centuries of history, "God's Philosophers" brings back to light the discoveries of neglected geniuses like John Buridan, Nicole Oresme and Thomas Bradwardine, as well as putting into context the contributions of more familiar figures like Roger Bacon, William of Ockham and Saint Thomas Aquinas.**

Four Civilizations, One 17th-century Breakthrough

The Experiential Caribbean