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The Ethereal Aether - Loyd S. Swenson, Jr.
2013-08-28

The Ethereal Aether is a historical narrative of one of the great experiments in modern physical science. The fame of the 1887 Michelson-Morley aether-drift test on the relative motion of the earth and the luminiferous aether derives largely from the role it is popularly supposed to have played in the origins, and later in the justification, of Albert Einstein’s first theory of relativity; its importance is its own. As a case history of the intermittent performance of an experiment in physical optics from 1880 to 1930 and of the men whose work it was, this study describes chronologically the conception, experimental design, first trials, repetitions, influence on physical theory, and eventual climax of the optical experiment. Michelson, Morley, and their colleague Miller were the prime actors in this half-century drama of confrontation between experimental and theoretical physics. The issue concerned the relative motion of “Spaceship Earth” and the Universe, as measured against the background of a luminiferous medium supposedly filling all interstellar space. At stake, it seemed, were the phenomena of astronomical aberration, the wave theory of light, and the Newtonian concepts of absolute space and time. James Clerk Maxwell’s suggestion for a test of his electromagnetic theory was translated by Michelson into an experimental design in 1881, redesigned and reaffirmed as a null result with Morley in 1887, thereafter modified and partially repeated by Morley and Miller, finally completed in 1926 by Miller alone, then by Michelson’s team again in the late 1920s. Meanwhile Helmholtz, Kelvin, Rayleigh, FitzGerald, Lodge, Larmor, Lorentz, and Poincaré—most of the great names in theoretical physics at the turn of the twentieth century—had wrestled with the anomaly presented by Michelson’s experiment. As the relativity and quantum theories matured, wave-particle duality was accepted by a new generation of physicists. The aether-drift tests disproved the old and verified the new theories of light and electromagnetism. By 1930 they
seemed to explain Einstein, relativity, and spacetime. But in historical fact, the aether died only with its believers.


The Ethereal Aether-Loyd S. Swenson 1962

The Ethereal Aether- 1962

The Ethereal Aether-Loyd S. Swenson 1969

Historical Studies in the Physical Sciences, Volume 7-Russell McCormmach 2015-03-08 The first article in this volume, by Tetu Hirosige, is a definitive study of the genesis of Einstein's theory of relativity. Other articles treat topics—theoretical, experimental, philosophical, and institutional—in the history of physics and chemistry from the researches of Laplace and Lavoisier in the eighteenth century to those of Dirac and Jordan in the twentieth century.

Contents: The Ether Problem, the Mechanistic World View, and the Origins of the Theory of Relativity (Tetu Hirosige); Kinston's Early Scientific Collaboration (Lewis Pyenson); Max Planck's Philosophy of Nature and His Elaboration of the Special Theory of Relativity (Stanley Goldberg); The Concept of Particle Creation before and after Quantum Mechanics (Joan Brombery); Chemistry as a Branch of Physics: Laplace's Collaboration with Lavoisier (Henry Guerlac); Mayer's Concept of "Force": The "Axis" of a New Science of Physics (P. M. Heimann); Debates over the Theory of Solution: A Study of Dissent in Physical Chemistry in the English-Speaking World in the Late Nineteenth and Early Twentieth Centuries (R. G. A. Dolby); The Rise of Physics Laboratories in Britain (Romualdas Sviedrys); The Establishment of the
Royal College of Chemistry: An Investigation of the Social Context of Early-Victorian Chemistry (Gerrylynn K. Roberts) Originally published in 1976. 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 Press since its founding in 1905.

Imre Lakatos and the Guises of Reason - John Kadvany 2001-03-19 The Hungarian émigré Imre Lakatos (1922–1974) earned a worldwide reputation through the influential philosophy of science debates involving Thomas Kuhn, Paul Feyerabend, and Sir Karl Popper. In Imre Lakatos and the Guises of Reason John Kadvany shows that embedded in Lakatos’s English-language work is a remarkable historical philosophy rooted in his Hungarian past. Below the surface of his life as an Anglo-American philosopher of science and mathematics, Lakatos covertly introduced novel transformations of Hegelian and Marxist ideas about historiography, skepticism, criticism, and rationality. Lakatos escaped Hungary following the failed 1956 Revolution. Before then, he had been an influential Communist intellectual and was imprisoned for years by the Stalinist regime. He also wrote a lost doctoral thesis in the philosophy of science and participated in what was criminal behavior in all but a legal sense. Kadvany argues that this intellectual and political past animates Lakatos’s English-language philosophy, and that, whether intended or not, Lakatos integrated a penetrating vision of Hegelian ideas with rigorous analysis of mathematical proofs and controversial histories of science. Including new applications of Lakatos’s ideas to the histories of mathematical logic and economics and providing lucid exegesis of many of Hegel’s basic ideas.
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Imre Lakatos and the Guises of Reason is an exciting reconstruction of ideas and episodes from the history of philosophy, science, mathematics, and modern political history.

Reader's Guide to the History of Science-Arne Hessenbruch 2013-12-16 The Reader's Guide to the History of Science looks at the literature of science in some 550 entries on individuals (Einstein), institutions and disciplines (Mathematics), general themes (Romantic Science) and central concepts (Paradigm and Fact). The history of science is construed widely to include the history of medicine and technology as is reflected in the range of disciplines from which the international team of 200 contributors are drawn.

The History of Science in the United States-Marc Rothenberg 2001 This Encyclopedia examines all aspects of the history of science in the United States, with a special emphasis placed on the historiography of science in America. It can be used by students, general readers, scientists, or anyone interested in the facts relating to the development of science in the United States. Special emphasis is placed in the history of medicine and technology and on the relationship between science and technology and science and medicine.

Physics in the Nineteenth Century-Robert D. Purrington 1997 Places the work of Faraday, Kelvin, and other nineteenth-century physicists into historical context, and describes how discoveries in electromagnetism, thermodynamics, energy, atomic structure, the kinetic theory, and other topics relate to the Industrial Revolution and European nationalism.

Physics and Psychics-Richard Noakes 2019-10-17 Noakes' revelatory analysis of Victorian scientists' fascination with psychic phenomena connects science, the occult and
religion in intriguing new ways.

**Relativity Principles and Theories from Galileo to Einstein**-Olivier Darrigol 2021-12
This book is a full, long-term history of relativity thinking in physics, from Galileo's early reflections on the proper reference of mechanical motion to Einstein's exploitation of relativity principles in his theories of special and general relativity.

**Pursuing Power and Light**-Bruce J. Hunt 2010-04-08 In the nineteenth century, science and technology developed a close and continuing relationship. The important advancements in physics were deeply rooted in the new technologies of the steam engine, the telegraph, and electric power and light. The author explores how the leading technologies of the industrial age helped reshape modern physics.

**Einstein in Spain**-Thomas F. Glick 2014-07-14 From 1900 to 1924 Spain experienced a stage of vigorous academic freedom and unfettered scientific inquiry that strikingly contrasted with the repressive atmosphere of the periods before and after. Thomas Glick explores this "recovery of science" by focusing on the national discussion provoked by Einstein's trip to Spain in 1923. His visit stimulated a debate on the nature and social value of science that was remarkable in a society so recently awakened to the scientific role in the process of modernization. Einstein's universal appeal created the unlikely occasion for a fascination with science that cut across social classes and previously established domains of discourse. The political Right, which in other countries opposed relativity in the name of "traditional" Newtonian science, backed the new theories with surprising enthusiasm. Engineers, a politically conservative group, contributed much of the rank-and-file support for Einstein; physicians, who tended to the Left, also eagerly embraced his ideas, as did a host of mutually antagonistic political groups, including anarcho-
syndicalists and bourgeois Catalan nationalists. Professor Glick's analysis of this multidimensional scientific forum provides an unusual amount of information on science in Spain and an opportunity to contrast the Spaniards' reception of Einstein's work and that of other nations during this historical period. Originally published in 1988. 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 Press since its founding in 1905.

**Ghost-Seers, Detectives, and Spiritualists**
Srdjan Smajić 2010-04-29 This book is a study of the narrative techniques that developed for two very popular forms of fiction in the nineteenth century - ghost stories and detective stories - and the surprising similarities between them in the context of contemporary theories of vision and sight. Srdjan Smajić argues that to understand how writers represented ghost-seers and detectives, the views of contemporary scientists, philosophers, and spiritualists with which these writers engage have to be taken into account: these views raise questions such as whether seeing really is believing, how much of what we 'see' is actually only inferred, and whether there may be other (intuitive or spiritual) ways of seeing that enable us to perceive objects and beings inaccessible to the bodily senses. This book will make a real contribution to the understanding of Victorian science in culture, and of the ways in which literature draws on all kinds of knowledge.

**The Uses of Experiment**
David Gooding 1989-05-18 Experiment is widely regarded as the most distinctive feature of natural science and
essential to the way scientists find out about the world. Yet there has been little study of the way scientists actually make and use experiments. The Uses of Experiment fills this gap in our knowledge about how science is practised. Presenting 14 original case studies of important and often famous experiments, the book asks the questions: What tools do experimenters use? How do scientists argue from experiments? What happens when an experiment is challenged? How do scientists check that their experiments are working? Are there differences between experiments in the physical sciences and technology? Leading scholars in the fields of history, sociology and philosophy of science consider topics such as the interaction of experiment; instruments and theory; accuracy and reliability as hallmarks of experiment in science and technology; realising new phenomena; the believability of experiments and the sort of knowledge they produce; and the wider contexts on which experimentalists draw to develop and win support for their work. Drawing on examples as diverse as Galilean mechanics, Victorian experiments on electricity, experiments on cloud formation, and testing of nuclear missiles, a new view of experiment emerges. This view emphasises that experiments always involve choice, tactics and strategy in persuading audiences that Nature resembles the picture experimenters create.

**Thematic Origins of Scientific Thought**
Gerald Holton 1988-05-25 The highly acclaimed first edition of this major work convincingly established Gerald Holton’s analysis of the ways scientific ideas evolve. His concept of “themata,” induced from case studies with special attention to the work of Einstein, has become one of the chief tools for understanding scientific progress. It is now one of the main approaches in the study of the initiation and acceptance of individual scientific insights. Three principal consequences of this perspective extend beyond the study of the history of science itself. It provides philosophers of science with the kind of raw material on which some of the best work in their
field is based. It helps intellectual historians to redefine the place of modern science in contemporary culture by identifying influences on the scientific imagination. And it prompts educators to reexamine the conventional concepts of education in science. In this new edition, Holton has masterfully reshaped the contents and widened the coverage. Significant new material has been added, including a penetrating account of the advent of quantum physics in the United States, and a broad consideration of the integrity of science, as exemplified in the work of Niels Bohr. In addition, a revised introduction and a new postscript provide an updated perspective on the role of themata. The result of this thoroughgoing revision is an indispensable volume for scholars and students of scientific thought and intellectual history.

No Shadow of a Doubt - Daniel Kennefick
2021-03-09 The extraordinary story of the scientific expeditions that ushered in the era of relativity In 1919, British scientists led expeditions to Brazil and Africa to test Albert Einstein’s new theory of general relativity in what became the century’s most celebrated scientific experiment. The result ushered in a new era and made Einstein a celebrity by confirming his prediction that the path of light rays would be bent by gravity. Yet the effort to “weigh light” during the May 29, 1919, solar eclipse has become clouded by myth and skepticism. Could Arthur Eddington and Frank Dyson have gotten the results they claimed? Did the pacifist Eddington falsify evidence to foster peace after a horrific war by validating the theory of a German antiwar campaigner? In No Shadow of a Doubt, Daniel Kennefick provides definitive answers by offering the most comprehensive and authoritative account of how expedition scientists overcame war, bad weather, and equipment problems to make the experiment a triumphant success.

The Problem of Disenchantment - Egil Asprem
2018-05-31 Challenges the conventional view of a “disenchanting” and secular modernity, and recovers the complex relation that exists between science, religion, and esotericism in the modern world. Max Weber famously characterized the ongoing process of intellectualization and rationalization that separates the natural world from the divine (by excluding magic and value from the realm of science, and reason and fact from the realm of religion) as the “disenchantment of the world.” Egil Asprem argues for a conceptual shift in how we view this key narrative of modernity. Instead of a sociohistorical process of disenchantment that produces increasingly rational minds, Asprem maintains that the continued presence of “magic” and “enchantment” in people’s everyday experience of the world created an intellectual problem for those few who were socialized to believe that nature should contain no such incalculable mysteries. Drawing on a wide range of early twentieth-century primary sources from theoretical physics, occultism, embryology, radioactivity, psychical research, and other fields, Asprem casts the intellectual life of high modernity as a synchronic struggle across conspicuously different fields that shared surprisingly similar intellectual problems about value, meaning, and the limits of knowledge. “The Problem of Disenchantment is, in its entirety, extraordinarily well researched, argued, and written—representing at once the most complete and nuanced treatment of the notion of disenchantment within this network of scientific, religious, philosophical, and esoteric discourses and currents.” — Nova Religio

**Scientists of Faith**-Dan Graves 1996 The personal stories of forty-eight historic scientists and an overview of their contributions to their field and faith.

**The Cambridge Companion to Einstein**-Michel Janssen 2014-05-19 These fourteen essays by leading historians and philosophers of science introduce the reader to the work of Albert
Einstein. Following an introduction that places Einstein's work in the context of his life and times, the essays explain his main contributions to physics in terms that are accessible to a general audience, including special and general relativity, quantum physics, statistical physics, and unified field theory. The closing essays explore the relation between Einstein's work and twentieth-century philosophy, as well as his political writings.

**An American Scientist on the Research Frontier** - Ralph R. Hamerla 2006-07-04

An American Scientist on the Research Frontier is the first scholarly study of the nineteenth-century American scientist Edward Williams Morley. In part, it is the long-overdue story of a man who lent his name to the Michelson and Morley Ether-Drift Experiment, and who conclusively established the atomic weight of oxygen. It is also the untold story of science in provincial America: what Hamerla presents as science on the "American research frontier". This important examination of Morley's struggle for personal and professional legitimacy extends and transforms our understanding of science during a foundational period, and leads to a number of unique conclusions that are vital to the literature and historiography of science. By revealing important aspects of the scientific culture of the American heartland, An American Scientist on the Research Frontier deepens our understanding of an individual scientist and of American science more broadly. In so doing, Hamerla changes the way we approach and understand the creation of scientific knowledge, scientific communities, and the history of science itself.

**The Master of Light: A Biography of Albert A. Michelson** - Dorothy Michelson Livingston 2021-01-14

In this biography of Albert A. Michelson (1852-1931), his daughter shares personal reminiscences, describes her father's family life — two wives, six children, and a strong temperament — and follows Michelson from his
birth in Poland to Jewish parents to the United States where his parents brought him at the age of three, settling in a gold-rush town in Nevada and then in San Francisco. Michelson graduated from the US Naval Academy in 1873, studied in Europe, taught at Clark University, and was head of the department of physics at the University of Chicago from 1894 to 1929. Michelson’s passion was the accurate measurement of the speed of light. In his first experiment, he found it to be 186,320 miles per second, which remained the best value available for a generation, until Michelson himself bettered it. He also invented the interferometer to measure distances using the length of light waves; he measured the meter using the wavelength of cadmium light for the International Bureau of Weights and Measures in Paris; and he used light interference to determine the size of stars. With E. W. Morley, he showed that the absolute motion of the earth through the ether is not measurable, contributing to the development of the theory of relativity.

The first American to receive a Nobel prize in science, Michelson received the Nobel prize in physics in 1907 for his optical precision instruments and for the spectroscopic and metrological investigations he made with them. “This work of a devoted daughter who is not herself a scientist catches the humanity of a complex, brilliant man through anecdotes and informed detail.” — The New York Times “From personal recollection, from much reading, and from interviews, Mrs. Livingston has written a well-organized scientific biography of her father... In this book the author has attempted not only to discuss his scientific achievements, but also to portray Michelson the man — his personality and character, strengths and foibles. He was dedicated but demanding and could be arrogant, strict, and severe... This book portrays Michelson not as a legend, but as a real, believable person.” — John N. Howard, Science “[A] beautiful family portrait of Albert Abraham Michelson, America’s first Nobel laureate for science. This biography is more than an intellectual exercise, more than merely of academic or scientific or historical interest. It is almost a religious work that begins with a ‘quest
for my father’ and ends with a ‘postscript’ on Michelson’s honors and continuing influence... an intelligently organized, emotionally motivated, intellectually controlled search for meaning in the life and works of a great man of science... Michelson’s youngest daughter by his second marriage, has presented a sensitive, artful, honest, and superbly readable portrait of her father... [which] paints the full life, personal relations, and human figure of Michelson in a form that is a worthy monument to his memory... We learn to know much more intimately where Michelson originated, how he matured, who recognized and helped him, what personal influences shaped his life, when and where his own exertions were influential in shaping the life of physics in the United States and the world... the author has been remarkably judicious and meticulous in handling her material.” — Loyd S. Swenson, Jr., Isis “A non-physicist herself, [the author] has relied heavily on physicists who were familiar with her father’s work and with the field of optics in general, as well as archivists, historians of science, writers and editors. Thus, this thorough biography is the fortunate combination of the efforts of many people, resulting in a valuable reference work as well as a very readable story about one of America’s greatest scientists... Its merit lies in the masterful way the author has melded voluminous information from many sources into a sensitive and realistic portrait of Michelson, showing him as a very real person with strengths and weaknesses, and showing his relation to scientists and the science of his period. It is a book well written and well worth reading by physicists and non-physicists alike.” — Jean M. Bennett, Physics Today “Mrs Livingston, Michelson’s last child by his second wife, is, as she says, neither a physicist nor a writer. Her book nonetheless has something for both the general reader and the specialist. The former will find an interesting and even adventurous life, the latter some gems from unpublished correspondence.” — J. L. Heilbron, The British Journal for the History of Science “The biography is a well-researched, accurate, and reliable work enhanced by the author’s invaluable first-hand
experience with the subject. Michelson’s achievements are set against his personal life including his family, relationships to other scientists, and the struggles which inevitably develop in establishing a college science department.” — George T. Ladd, The Science Teacher “This excellent biography by Michelson’s youngest daughter is a judicious mixture of anecdotes and details of the scientific achievements... Dorothy Livingston is to be congratulated on this very readable and informative biography of her talented father.” — W. W. Watson, American Scientist “[An] admirable biography of Michelson the man... most fascinating.” — David R. Topper, Technology and Culture

The God Knot: Undone by Religionosity Origins and Cycles-H C Potter 2019-09-30 The God Knot Undone by Religionosity Origins and Cycles By: HC Potter with GH Moore D Min The origin of evil has been the deepest problem of life. It confronts every human being in one form or other. If there is one question which has eluded all investigations of the keenest intellects of all lands and all times; if there is one problem which has called forth volumes of writings from the profoundest of thinkers; if there is one riddle that has baffled all attempts of the sages at solving it; if there is one problem on which the last word yet remains to be said, despite the world’s voluminous literature of some ten and twenty centuries—it is the problem of the existence of evil. Inspired by recent books disparaging religion, many of which use exemplary human foibles to make their case and show a common disregard for historical background, The God Knot corrects their failings and instead provides a surprisingly simple answer to the ages-old theodicy question: How is God compatible with evil?

Einstein's Opponents-Milena Wazeck 2014-01-09 Exploring the ferocious opposition which once surrounded the theory of relativity, this fascinating account details the strategies and
motivations of Einstein's detractors. A unique insight into the dynamics of scientific controversies, ideal for anyone interested in the history and philosophy of physics, popular science, and the public understanding of science.

**Beauty and Revolution in Science** - James W. McAllister 2018-09-05 How reasonable and rational can science be when its practitioners speak of "revolutions" in their thinking and extol certain theories for their "beauty"? James W. McAllister addresses this question with the first systematic study of the aesthetic evaluations that scientists pass on their theories. P. A. M. Dirac explained why he embraced relativity by saying, "It is the essential beauty of the theory which I feel is the real reason for believing in it." Dirac's claim seems to belie rationalist accounts of science. Using this and a wealth of other historical examples, McAllister explains how scientists' aesthetic preferences are influenced by the empirical track record of theories, describes the origin and development of aesthetic styles of theorizing, and reconsiders whether simplicity is an empirical or an aesthetic virtue of theories. McAllister then advances an innovative model of scientific revolutions, in opposition to that of Thomas S. Kuhn. Three detailed studies demonstrate the interconnection of empirical performance, beauty, and revolution. One examines the impact of new construction materials on the history of architecture. Another reexamines the transition from the Ptolemaic system to Kepler's theory in planetary astronomy, and the third documents the rise of relativity and quantum theory in the twentieth century.

**Albert Meets America** - József Illy 2006 This exciting collection gives readers an intimate glimpse into the life of one of the world's first modern celebrities and a unique understanding of the media's power over both its subject and its audience.

**Historical Studies in the Physical Sciences**
Volume 6-Russell McCormmach 2017-03-14 This sixth volume of Historical Studies in the Physical Sciences presents articles by ten eminent scholars on the intellectual and social history of the physical sciences from the eighteenth century to the present. CONTENTS The Emergence of Japan's First Physicists: 1868-1900 (Kenkichiro Koizumi) The Reception of the Wave Theory of Light in Britain: A Case Study Illustrating the Role of Methodology in Scientific Debate (Geoffrey Cantor) Origins and Consolidation of Field Theory in Nineteenth Century Britain: From the Mechanical to the Electromagnetic View of Nature (Barbara Giusti Doran) Hertz's Researches on Electromagnetic Waves (Salvo D'Agostino) God and Nature: Priestley's Way of Rational Dissent (J. G. McEvoy and J. E. McGuire) Laurent, Gerhardt, and the Philosophy of Chemistry (John Hedley Brooke) The Lewis-Langmuir Theory of Valence and the Chemical Community, 1920-1928 (Robert E. Kohler, Jr.) G. N. Lewis on Detailed Balancing, the Symmetry of Time, and the Nature of Light (Roger H. Stuewer) Rutherford and Recoil Atoms: The Metamorphosis and Success of a Once Stillborn Theory (Thaddeus J. Trenn) Originally published in 1976. 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 Press since its founding in 1905.

Astronomers and Cosmologists-Dean Miller 2014-01-01 In this book, a breakdown of the life and work of some of history's pioneers in the study of astronomy and cosmology are thoroughly explored. This volume provides excellent biographical sketches for trailblazers in the sciences. Articles are devoted to specific scientists, covering the contributions to their
field, specifically addressing how their research, discoveries, and inventions impacted human understanding and experience. This historical review includes scientists from around the world and throughout the centuries, with a chapter specifically devoted to the top scientific contributors of the 21st century.

Energy, Force and Matter - Peter M. Harman 1982-04-30 By focusing on the conceptual issues faced by nineteenth century physicists, this book clarifies the status of field theory, the ether, and thermodynamics in the work of the period. A remarkably synthetic account of a difficult and fragmentary period in scientific development.

The American Ideology of National Science, 1919-1930 - Ronald C. Tobey 1971-10-15 Ronald C. Tobey provides a provocative analysis of the movement to establish a national science program in the early twentieth century. Led by several influential scientists, who had participated in centralized scientific enterprises during World War I, the new effort to conjoin science and society was an attempt to return to earlier progressive values with the hope of producing science for society's benefit. The movement was initially undermined by the new physics, and Einstein's theories of relativity, which shattered traditional views and alienated the American public. Nationalized research programs were tempered by the conservatism of corporate donors. Later, with the disintegration of progressivism, the gap between science and society made it impossible for the two cultures to unite.

The Golem - Harry M. Collins 2012-03-29 Harry Collins and Trevor Pinch liken science to the Golem, a creature from Jewish mythology, powerful yet potentially dangerous, a gentle, helpful creature that may yet run amok at any moment. Through a series of intriguing case studies the authors debunk the traditional view that science is the straightforward result of
competent theorisation, observation and experimentation. The very well-received first edition generated much debate, reflected in a substantial new Afterword in this second edition, which seeks to place the book in what have become known as ‘the science wars’.

**Understanding Relativity**-GOLDBERG  
2013-06-29 The central subject matter of this book is Einstein's special theory of relativity. While it is a book that is written primarily for a lay audience this does not necessarily mean an audience not versed in the ways of doing science. Rather, this book is written for anyone wishing to consider the nature of the scientific enterprise: where ideas come from, how they become established and accepted, what the relationships are among theories, predictions, and measurements, or the relationship between ideas in a scientific theory and the values held to be important within the larger culture. Some readers will find it strange that I raise any of these issues. It is a common view in our culture that the status of knowledge within science is totally different from the status of knowledge in other areas of human endeavor. The word "science" stems from the Latin word meaning "to know" and indeed, knowledge which scientists acquire in their work is commonly held to be certain, unyielding, and absolute. Consider how we use the adjective "scientific. " There are investors and there are scientific investors. There are socialists and there are scientific socialists. There are exterminators and there are scientific exterminators. We all know how the modifier "scientific" inttudes in our daily life. It is the purpose of this book to challenge the belief that scientific knowledge is different from other kinds of knowledge.

**Electrodynamics from Ampère to Einstein**-Olivier Darrigol 2003-06-26 This book recounts the developments of fundamental electrodynamics from Ampère's investigation of the forces between electric currents to Einstein's introduction of a new doctrine of space and time.
The emphasis is on the diverse, evolving practices of electrodynamics and the interactions between the corresponding scientific traditions. A richly documented, clearly written, and abundantly illustrated history of the subject.

**Einstein's Jury** - Jeffrey Crelinsten 2016-05-31

Einstein's Jury is the dramatic story of how astronomers in Germany, England, and America competed to test Einstein's developing theory of relativity. Weaving a rich narrative based on extensive archival research, Jeffrey Crelinsten shows how these early scientific debates shaped cultural attitudes we hold today. The book examines Einstein's theory of general relativity through the eyes of astronomers, many of whom were not convinced of the legitimacy of Einstein's startling breakthrough. These were individuals with international reputations to uphold and benefactors and shareholders to please, yet few of them understood the new theory coming from the pen of Germany's up-and-coming theoretical physicist, Albert Einstein. Some tried to test his theory early in its development but got no results. Others—through toil and hardship, great expense, and perseverance—concluded that it was wrong. A tale of international competition and intrigue, Einstein's Jury brims with detail gleaned from Crelinsten's far-reaching inquiry into the history and development of relativity. Crelinsten concludes that the well-known British eclipse expedition of 1919 that made Einstein famous had less to do with the scientific acceptance of his theory than with his burgeoning public fame. It was not until the 1920s, when the center of gravity of astronomy and physics shifted from Europe to America, that the work of prestigious American observatories legitimized Einstein's work. As Crelinsten so expertly shows, the glow that now surrounds the famous scientist had its beginnings in these early debates among professional scientists working in the glare of the public spotlight.

**Instrumentation Between Science, State and Industry** - B. Joerges 2012-12-06

These. In this
book, we appropriate their conception of research-technology, and extend it to many other phenomena which are less stable and less localized in time and space than the Zeeman/Cotton situation. In the following pages, we use the concept for instances where research activities are orientated primarily toward technologies which facilitate both the production of scientific knowledge and the production of other goods. In particular, we use the term for instances where instruments and methods traverse numerous geographic and institutional boundaries; that is, fields distinctly different and distant from the instruments' and methods' initial focus. We suggest that instruments such as the ultra-centrifuge, and the trajectories of the men who devise such artefacts, diverge in an interesting way from other forms of artefacts and careers in science, metrology and engineering with which students of science and technology are more familiar. The instrument systems developed by research-technologists strike us as especially general, open-ended, and flexible. When tailored effectively, research-technology instruments potentially fit into many niches and serve a host of unrelated applications. Their multi-functional character distinguishes them from many other devices which are designed to address specific, narrowly defined problems in a circumscribed arena in and outside of science. Research technology activities link universities, industry, public and private research or metrology establishments, instrument-making finns, consulting companies, the military, and metrological agencies. Research-technology practitioners do not follow the career path of the traditional academic or engineering professional.

The Maxwellians—Bruce J. Hunt 2005 James Clerk Maxwell published the Treatise on Electricity and Magnetism in 1873. At his death, six years later, his theory of the electromagnetic field was neither well understood nor widely accepted. By the mid-1890s, however, it was regarded as one of the most fundamental and fruitful of all physical theories. Bruce J. Hunt examines the joint work of a group of young
British physicists--G. F. FitzGerald, Oliver Heaviside, and Oliver Lodge--along with a key German contributor, Heinrich Hertz. It was these "Maxwellians" who transformed the fertile but half-finished ideas presented in the Treatise into the concise and powerful system now known as "Maxwell's theory."

The Worldwide List of Alternative Theories and Critics-Jean de Climont 2020-11-01 This list (only available in English language) includes scientists involved in scientific fields. The 2021 issue of this directory includes the scientists found in the Internet. The scientists of the directory are only those involved in physics (natural philosophy). The list includes about 10 000 names of scientists (doctors or diplome engineers for more than 70%). Their position is shortly presented together with their proposed alternative theory when applicable. There are more than 2500 authors of such theories, all amazingly very different from one another. Ce répertoire, exclusivement disponible en langue anglaise, inclut les scientifiques, exclusivement dans le domaine de la physique. L'édition 2021 de cette liste comporte près de 10 000 noms de scientifiques, (docteurs ou ingénieurs à plus de 70%). Elle précise leur position de manière succincte et expose, le cas échéant, les lignes directrices de la solution alternative qu'ils proposent. Il y a ainsi plus de 2500 auteurs de telles théories, toutes remarquablement différentes.

The Nobel Prize-Burton Feldman 2000 A history of the Nobel Prize reveals the biases and controversies inherent in the choosing of award winners in each field, scandals, corruption, and the problems stemming from a refusal to change with modern times.

Danish Dictionary-Anna Garde 2013-09-13 First Published in 1995. Routledge is an imprint of Taylor & Francis, an informa company.