

A Short History Of Chemistry Science Study Isaac Asimov

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The Sceptical Chymist

Robert Boyle 2013-04-16

This 1661 classic defines the term "element" and asserts that all natural phenomena can be explained by the motion and organization of primary particles. 1911 edition.

A Brief History of

Chemistry Edited by: Kiskak

2015-11-03 The history of chemistry represents a time span from ancient history to the present. By 1000 BC, civilizations used technologies that would eventually form the basis to the various branches of chemistry. Examples include extracting metals from ores,

making pottery and glazes, fermenting beer and wine, extracting chemicals from plants for medicine and perfume, rendering fat into soap, making glass, and making alloys like bronze. The protoscience of chemistry, alchemy, was unsuccessful in explaining the nature of matter and its transformations. However, by performing experiments and recording the results, alchemists set the stage for modern chemistry. The distinction began to emerge when a clear differentiation was made between chemistry and alchemy by Robert Boyle in his work *The Sceptical Chymist* (1661). While both alchemy and chemistry are concerned with matter and its transformations, chemists are seen as applying scientific method to their work. Chemistry is considered to have become an established science with the work of Antoine Lavoisier, who developed a law of conservation of mass

that demanded careful measurement and quantitative observations of chemical phenomena. The history of chemistry is also intertwined with the history of thermodynamics. This book gives a comprehensive current overview on the history of the science of chemistry.

Historical Introduction to Chemistry Thomas Martin

Lowry 1915

The Story of Chemistry

Harold W. Picton 2016-08-09

The story of chemistry is an unchanged, high-quality reprint of the original edition of 1889. Hansebooks is editor of the literature on different topic areas such as research and science, travel and expeditions, cooking and nutrition, medicine, and other genres. As a publisher we focus on the preservation of historical literature. Many works of historical writers and scientists are available today as antiques only. Hansebooks newly publishes these books and contributes

to the preservation of literature which has become rare and historical knowledge for the future.

The Elements Philip Ball 2021-09-27 The classical elements -- The antique metals -- Alchemical elements -- The new metals -- Chemistry golden age -- Electrical discoveries -- The radiant age -- The nuclear age.

Philosophy of Chemistry

Eric Scerri 2014-11-11 This volume follows the successful book, which has helped to introduce and spread the Philosophy of Chemistry to a wider audience of philosophers, historians, science educators as well as chemists, physicists and biologists. The introduction summarizes the way in which the field has developed in the ten years since the previous volume was conceived and introduces several new authors who did not contribute to the first edition. The editors are well

placed to assemble this book, as they are the editor in chief and deputy editors of the leading academic journal in the field, *Foundations of Chemistry*. The philosophy of chemistry remains a somewhat neglected field, unlike the philosophy of physics and the philosophy of biology. Why there has been little philosophical attention to the central discipline of chemistry among the three natural sciences is a theme that is explored by several of the contributors. This volume will do a great deal to redress this imbalance. Among the themes covered is the question of reduction of chemistry to physics, the reduction of biology to chemistry, whether true chemical laws exist and causality in chemistry. In addition more general questions of the nature of organic chemistry, biochemistry and chemical synthesis are examined by specialist in these areas.

The History of Chemistry

Thomas Thomson 1830
Studies in Natural Products Chemistry Atta-ur- Rahman
2012-09-06 Natural products play an integral and ongoing role in promoting numerous aspects of scientific advancement, and many aspects of basic research programs are intimately related to natural products. With articles written by leading authorities in their respective fields of research, Studies in Natural Products Chemistry, Volume 37 presents current frontiers and future guidelines for research based on important discoveries made in the field of bioactive natural products. It is a valuable source for researchers and engineers working in natural products and medicinal chemistry. Describes the chemistry of bioactive natural products Contains contributions by leading authorities in the field A valuable source for researchers and engineers working in natural product and medicinal chemistry

Silent Spring Rachel Carson 2002 Discusses the reckless annihilation of fish and birds by the use of pesticides and warns of the possible genetic effects on humans.
Chemistry Education and Contributions from History and Philosophy of Science Mansoor Niaz 2015-12-23 This book explores the relationship between the content of chemistry education and the history and philosophy of science (HPS) framework that underlies such education. It discusses the need to present an image that reflects how chemistry developed and progresses. It proposes that chemistry should be taught the way it is practiced by chemists: as a human enterprise, at the interface of scientific practice and HPS. Finally, it sets out to convince teachers to go beyond the traditional classroom practice and explore new teaching strategies. The importance of HPS has been

recognized for the science curriculum since the middle of the 20th century. The need for teaching chemistry within a historical context is not difficult to understand as HPS is not far below the surface in any science classroom. A review of the literature shows that the traditional chemistry classroom, curricula, and textbooks while dealing with concepts such as law, theory, model, explanation, hypothesis, observation, evidence and idealization, generally ignore elements of the history and philosophy of science. This book proposes that the conceptual understanding of chemistry requires knowledge and understanding of the history and philosophy of science. "Professor Niaz's book is most welcome, coming at a time when there is an urgently felt need to upgrade the teaching of science. The book is a huge aid for adding to the usual way - presenting science as

a series of mere facts - also the necessary mandate: to show how science is done, and how science, through its history and philosophy, is part of the cultural development of humanity." Gerald Holton, Mallinckrodt Professor of Physics & Professor of History of Science, Harvard University "In this stimulating and sophisticated blend of history of chemistry, philosophy of science, and science pedagogy, Professor Mansoor Niaz has succeeded in offering a promising new approach to the teaching of fundamental ideas in chemistry. Historians and philosophers of chemistry --- and above all, chemistry teachers --- will find this book full of valuable and highly usable new ideas" Alan Rocke, Case Western Reserve University "This book artfully connects chemistry and chemistry education to the human context in which chemical science is practiced and the historical and philosophical

background that illuminates that practice. Mansoor Niaz deftly weaves together historical episodes in the quest for scientific knowledge with the psychology of learning and philosophical reflections on the nature of scientific knowledge and method. The result is a compelling case for historically and philosophically informed science education. Highly recommended!" Harvey Siegel, University of Miami "Books that analyze the philosophy and history of science in Chemistry are quite rare. 'Chemistry Education and Contributions from History and Philosophy of Science' by Mansoor Niaz is one of the rare books on the history and philosophy of chemistry and their importance in teaching this science. The book goes through all the main concepts of chemistry, and analyzes the historical and philosophical developments as well as their reflections in textbooks. Closest to my

heart is Chapter 6, which is devoted to the chemical bond, the glue that holds together all matter in our earth. The chapter emphasizes the revolutionary impact of the concept of the 'covalent bond' on the chemical community and the great novelty of the idea that was conceived 11 years before quantum mechanics was able to offer the mechanism of electron pairing and covalent bonding. The author goes then to describe the emergence of two rival theories that explained the nature of the chemical bond in terms of quantum mechanics; these are valence bond (VB) and molecular orbital (MO) theories. He emphasizes the importance of having rival theories and interpretations in science and its advancement. He further argues that this VB-MO rivalry is still alive and together the two conceptual frames serve as the tool kit for thinking and doing

chemistry in creative manners. The author surveys chemistry textbooks in the light of the how the books preserve or not the balance between the two theories in describing various chemical phenomena. This Talmudic approach of conceptual tension is a universal characteristic of any branch of evolving wisdom. As such, Mansoor's book would be of great utility for chemistry teachers to examine how can they become more effective teachers by recognizing the importance of conceptual tension".

Sason Shaik Saeree K. and Louis P. Fiedler Chair in Chemistry Director, The Lise Meitner-Minerva Center for Computational Quantum Chemistry, The Hebrew University of Jerusalem, ISRAEL

Conversations on Chemistry
Jane Haldimand Marcet
2010-10-31 Bright, humorous and engaging, Marcet's best-selling 1805 book was designed to

introduce women to scientific ideas.

A Brief History of Chemistry
Michael S Ridenour
Bibliography on the History of Chemistry and Chemical Technology. 17th to the 19th Century / Bibliographie zur Geschichte der Chemie und chemischen Technologie. 17. bis 19.

Jahrhundert Valentin Wehefritz 1994-01-01
International Handbook of Research in History, Philosophy and Science Teaching Michael R. Matthews 2014-07-03 This inaugural handbook documents the distinctive research field that utilizes history and philosophy in investigation of theoretical, curricular and pedagogical issues in the teaching of science and mathematics. It is contributed to by 130 researchers from 30 countries; it provides a logically structured, fully referenced guide to the ways in which science and mathematics education is, informed by the history and

philosophy of these disciplines, as well as by the philosophy of education more generally. The first handbook to cover the field, it lays down a much-needed marker of progress to date and provides a platform for informed and coherent future analysis and research of the subject. The publication comes at a time of heightened worldwide concern over the standard of science and mathematics education, attended by fierce debate over how best to reform curricula and enliven student engagement in the subjects. There is a growing recognition among educators and policy makers that the learning of science must dovetail with learning about science; this handbook is uniquely positioned as a locus for the discussion. The handbook features sections on pedagogical, theoretical, national, and biographical research, setting the literature of each tradition in its historical context. It

reminds readers at a crucial juncture that there has been a long and rich tradition of historical and philosophical engagements with science and mathematics teaching, and that lessons can be learnt from these engagements for the resolution of current theoretical, curricular and pedagogical questions that face teachers and administrators. Science educators will be grateful for this unique, encyclopaedic handbook, Gerald Holton, Physics Department, Harvard University This handbook gathers the fruits of over thirty years' research by a growing international and cosmopolitan community Fabio Bevilacqua, Physics Department, University of Pavia

The History of Imperial College London,

1907-2007 Hannah Gay
2007-02-14 This is the first major history of Imperial College London. The book tells the story of a new type

of institution that came into being in 1907 with the federation of three older colleges. Imperial College was founded by the state for advanced university-level training in science and technology, and for the promotion of research in support of industry throughout the British Empire. True to its name the college built a wide number of Imperial links and was an outward looking institution from the start. Today, in the post-colonial world, it retains its outward-looking stance, both in its many international research connections, and with staff and students from around the world. Connections to industry and the state remain important. The College is one of Britain's premier research and teaching institutions, including now medicine alongside science and engineering. This book is an in-depth study of Imperial College; it covers both governance and academic

activity within the larger context of political, economic and socio-cultural life in twentieth-century Britain.

Contents: Introduction Before Imperial: The Colleges that Federated in 1907 The Founding of Imperial College Governance and Innovation, 1907–43 Imperial College during the First World War Continuity within the Three Old Colleges, 1907–45 Imperial Science at Imperial College Imperial College during the Second World War Expansion: Post-War to Robbins, 1945–67 (Part One) Expansion: Post-War to Robbins, 1945–67 (Part Two) Corporate and Social Life The Making of the Modern College, 1967–85: Part One Governance in a New Political Climate The Making of the Modern College, 1967–85: Part Two: Academic Restructuring Diversifying the Curriculum The Expanding College, 1985–2001... Part One: Governance and the Medical

School Mergers
The Expanding College,
1985–2001...Part Two: Some
Academic

Developments
Conclusion
Readership: Academic
libraries, alumni, staff and
students of Imperial College,
historians of science,
technology and medicine,
and historians of twentieth-
century Britain.

Keywords:History;Imperial
College;Science;Technology;
Medicine;Higher

Education;ResearchReviews:
“Accessibility and vast

reference material justifies
The History of Imperial
College London's place on
the bookshelf of any
institutional historian of
science and technology. Gay

has provided a well-
researched glimpse into the
broader role of higher
education in 20th century
British history.”History and

Philosophy of the Life
Sciences “Overall the author
has admirably succeeded in

fulfilling her aims by
producing an account that is
both scholarly and

accessible. She has also
judiciously balanced
detailed accounts of
departments and research
programmes with attention
to the wider institutional,
political, economic and
social context that
determined the resources
they had available to them
... it deserves a place as an
important reference work for
anyone interested in the
history of science and
technology or of higher
education in Britain during
the twentieth

century.”AMBIX “Overall,
Gay's history of Imperial
College is an invaluable
source of information not
only on the college's history,
but more broadly on the
history of science,
technology and medicine in
the United Kingdom during
the twentieth century.”The
British Journal for the History
of Science

The History of Chemistry: A
Very Short Introduction

William H. Brock 2016-01-28
From man's first exploration
of natural materials and

their transformations to today's materials science, chemistry has always been the central discipline that underpins both the physical and biological sciences, as well as technology. In this Very Short Introduction, William H Brock traces the unique appeal of this fundamental science throughout history. Covering alchemy, early-modern chemistry, pneumatic chemistry and Lavoisier's re-interpretation of chemical change, the rise of organic and physical chemistry, and the transforming power of synthesis, Brock explores the extraordinary and often puzzling transformations of natural and artificial materials, as well as the men and women who experimented, speculated, and explained matter and change. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area These pocket-sized books are the

perfect way to get ahead in a new subject quickly Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Philosophy of Chemistry

Davis Baird 2011-09-01 This comprehensive volume marks a new standard in scholarship in the emerging field of the philosophy of chemistry. Philosophers, chemists, and historians of science ask some fundamental questions about the relationship between philosophy and chemistry.

Quantities, Units and Symbols in Physical Chemistry

E Richard Cohen 2007-10-31 The first IUPAC Manual of Symbols and Terminology for Physicochemical Quantities and Units (the Green Book) of which this is the direct successor, was published in 1969, with the object of 'securing clarity and precision, and wider

agreement in the use of symbols, by chemists in different countries, among physicists, chemists and engineers, and by editors of scientific journals'. Subsequent revisions have taken account of many developments in the field, culminating in the major extension and revision represented by the 1988 edition under the simplified title Quantities, Units and Symbols in Physical Chemistry. This 2007, Third Edition, is a further revision of the material which reflects the experience of the contributors with the previous editions. The book has been systematically brought up to date and new sections have been added. It strives to improve the exchange of scientific information among the readers in different disciplines and across different nations. In a rapidly expanding volume of scientific literature where each discipline has a tendency to retreat into its

own jargon this book attempts to provide a readable compilation of widely used terms and symbols from many sources together with brief understandable definitions. This is the definitive guide for scientists and organizations working across a multitude of disciplines requiring internationally approved nomenclature.

A Short History of Chemistry James Riddick Partington 1989-01-01 This classic exposition explores the origins of chemistry, alchemy, early medical chemistry, nature of atmosphere, theory of valency, laws and structure of atomic theory, and much more.

Instruments and Experimentation in the History of Chemistry Frederic Lawrence Holmes 2000 From the days of the alchemists through the creation of the modern laboratory, chemistry has been defined by its

instruments and experimental techniques. Historians, however, have tended to focus on the course of chemical theory rather than on the tools and experiments that drove the theory. This volume moves chemical instruments and experiments into the foreground of historical concern, in line with the emphasis on practice that characterizes current work on other fields of science and engineering. The principal themes are: change and stability, precision, the construction and transformation of apparatus, the dissemination of instruments, and the bridging of disciplines through instruments. The essays are divided into three chronological sections: The Practice of Alchemy (reviewing the material and iconographic evidence as well as the written record and the issue of reproducibility of alchemical experiments), From Hales to

the Chemical Revolution (discussing significant seventeenth- and eighteenth-century innovations as well as smaller innovations that cumulatively extended the reach and improved the quality of chemical experimentation), and The Nineteenth and Early Twentieth Centuries (discussing the increasingly important role of innovative apparatus as chemistry grew into the first large-scale modern scientific discipline). Contributors : R. G. W. Anderson, Bernadette Bensaude-Vincent, Maurice Crosland, Jan Golinski, Frederic L. Holmes, Trevor H. Levere, Seymour H. Mauskopf, William R. Newman, Mary Jo Nye, Lawrence M. Principe, Alan J. Rocke, Colin A. Russell, William A. Smeaton, Melvyn Usselman.

The History of Chemistry

John Hudson 2012-12-06

This book is written as a result of a personal conviction of the value of

incorporating historical material into the teaching of chemistry, both at school and undergraduate level. Indeed, it is highly desirable that an undergraduate course in chemistry incorporates a separate module on the history of chemistry. This book is therefore aimed at teachers and students of chemistry, and it will also appeal to practising chemists. While the last 25 years has seen the appearance of a large number of specialist scholarly publications on the history of chemistry, there has been little written in the way of an introductory overview of the subject. This book fills that gap. It incorporates some of the results of recent research, and the text is illustrated throughout. Clearly, a book of this length has to be highly selective in its coverage, but it describes the themes and personalities which in the author's opinion have been of greatest importance in

the development of the subject. The famous American historian of science, Henry Guerlac, wrote: 'It is the central business of the historian of science to reconstruct the story of the acquisition of this knowledge and the refinement of its method or methods, and-perhaps above all-to study science as a human activity and learn how it arose, how it developed and expanded, and how it has influenced or been influenced by man's material, intellectual, and even spiritual aspirations' (Guerlac, 1977). This book attempts to describe the development of chemistry in these terms.

The Chemistry Book Derek B. Lowe 2016-01-05 From atoms and fluorescent pigments to sulfa drug synthesis and buckyballs, this lush and authoritative chronology presents 250 milestones in the world of chemistry. As the "central science" that bridges biology and physics,

chemistry plays an important role in countless medical and technological advances. Covering entertaining stories and unexpected applications, chemist and journalist Derek B. Lowe traces the most important—and surprising—chemical discoveries.

Exploring the World of Chemistry John Hudson Tiner 2001-09-01 Chemistry is an amazing branch of science that affects us every day, yet few people realize it, or even give it much thought. Without chemistry, there would be nothing made of plastic, there would be no rubber tires, no tin cans, no television, no microwave ovens, or something as simple as wax paper. This book presents an exciting and intriguing tour through the realm of chemistry as each chapter unfolds with facts and stories about the discoveries and discoverers. Find out why pure gold is not used for jewelry or coins. Join

Humphry Davy as he made many chemical discoveries, and learn how they shortened his life. See how people in the 1870s could jump over the top of the Washington Monument. *Exploring the World of Chemistry* brings science to life and is a wonderful learning tool with many illustrations, biographical information, chapter tests, and an index for easy referencing.

A Short History of Chemistry Isaac Asimov 1979 From the use of metals by prehistoric man to the alchemical experiments of medieval and renaissance man to the complex chemical skills of contemporary man, Asimov traces the development of this building block of our technological world.

The Chemical Tree William Hodson Brock 2000 From alchemy to industry, a synthetic history of chemistry through the ages. **Studies in the History of Chemistry** Sir Harold Hartley 1971

A History of Chemistry

Bernadette Bensaude-Vincent 1996 Presents chemistry as a science in search of an identity, or rather as a science whose identity has changed in response to its relation to society and other disciplines. This book discusses the conceptual, experimental, and technological challenges with wh

A Little History of

Science William Bynum 2012-10-15 Science is fantastic. It tells us about the infinite reaches of space, the tiniest living organism, the human body, the history of Earth. People have always been doing science because they have always wanted to make sense of the world and harness its power. From ancient Greek philosophers through Einstein and Watson and Crick to the computer-assisted scientists of today, men and women have wondered, examined, experimented, calculated, and sometimes made

discoveries so earthshaking that people understood the world—or themselves—in an entirely new way. This inviting book tells a great adventure story: the history of science. It takes readers to the stars through the telescope, as the sun replaces the earth at the center of our universe. It delves beneath the surface of the planet, charts the evolution of chemistry's periodic table, introduces the physics that explain electricity, gravity, and the structure of atoms. It recounts the scientific quest that revealed the DNA molecule and opened unimagined new vistas for exploration. Emphasizing surprising and personal stories of scientists both famous and unsung, A Little History of Science traces the march of science through the centuries. The book opens a window on the exciting and unpredictable nature of scientific activity and describes the uproar that may ensue when

scientific findings challenge established ideas. With delightful illustrations and a warm, accessible style, this is a volume for young and old to treasure together.

Transforming Matter

Trevor H. Levere 2001-08-03

Transforming Matter provides an accessible and clearly written introduction to the history of chemistry, telling the story of how the discipline has developed over the years.

Bibliography of Science

Teaching American Federation of Teachers of the Mathematical and the Natural Sciences 1911

History of Analytical

Chemistry Ferenc

Szabadváry 2016-01-22

History of Analytical

Chemistry is a systematic account of the historical development of analytical chemistry spanning about 4,000 years. Many scientists who have helped to develop the methods of analytical chemistry are mentioned. Various methods of analysis are discussed, including

electrogravimetry, optical methods, electrometric analysis, radiochemical analysis, and chromatography. This volume is comprised of 14 chapters and begins with an overview of analytical chemistry in ancient Greece, the origin of chemistry, and the earliest knowledge of analysis. The next chapter focuses on analytical chemistry during the Middle Ages, with emphasis on alchemy. Analytical knowledge during the period of iatrochemistry and the development of analytical chemistry during the phlogiston period are then examined. Subsequent chapters deal with the development of the fundamental laws of chemistry, including the principle of the indestructibility of matter; analytical chemistry during the period of Berzelius; and developments in qualitative and gravimetric analysis. Elementary organic analysis is also considered, along

with the development of the theory of analytical chemistry. This book will be helpful to chemists as well as students and researchers in the field of analytical chemistry.

The Periodic Table Eric R. Scerri 2019 The periodic table of elements, first encountered by many of us at school, provides an arrangement of the chemical elements, ordered by their atomic number, electron configuration, and recurring chemical properties, and divided into periodic trends. In this Very Short Introduction Eric R. Scerri looks at the trends in properties of elements that led to the construction of the table, and shows how the deeper meaning of the table's structure gradually became apparent with the development of atomic theory and, in particular, quantum mechanics, which underlies the behaviour of all of the elements and their compounds. This new edition, publishing in the

International Year of the Periodic Table, celebrates the completion of the seventh period of the table, with the ratification and naming of elements 113, 115, 117, and 118 as nihonium, moscovium, tennessine, and oganesson. Eric R. Scerri also incorporates new material on recent advances in our understanding of the origin of the elements, as well as developments concerning group three of the periodic table. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Nature of Science in General Chemistry Textbooks

Mansoor Niaz 2011-07-15

Research in science education has recognized the importance of history and philosophy of science (HPS). Nature of science (NOS) is considered to be an essential part of HPS with important implications for teaching science. The role played by textbooks in developing students' informed conceptions of NOS has been a source of considerable interest for science educators. In some parts of the world, textbooks become the curriculum and determine to a great extent what is taught and learned in the classroom. Given this background and interest, this monograph has evaluated NOS in university level general chemistry textbooks published in U.S.A. Most textbooks in this study provided little insight with respect to the nine criteria used for evaluating NOS. Some of the textbooks, however, inevitably refer to HPS and thus provide guidelines for future textbooks. A few of the

textbooks go into considerable detail to present the atomic models of Dalton, Thomson, Rutherford, Bohr and wave mechanical to illustrate the tentative nature of scientific theories --- an important NOS aspect. These results lead to the question: Are we teaching science as practiced by scientists? An answer to this question can help us to understand the importance of NOS, by providing students an HPS-based environment, so that they too (just like the scientists) feel the thrill and excitement of discovering new things. This monograph provides students and teachers guidelines for introducing various aspects of NOS, based on historical episodes.

Chemistry: A Very Short Introduction Peter Atkins
2015-02-26 Most people remember chemistry from their schooldays as largely incomprehensible, a subject that was fact-rich but understanding-poor, smelly,

and so far removed from the real world of events and pleasures that there seemed little point, except for the most introverted, in coming to terms with its grubby concepts, spells, recipes, and rules. Peter Atkins wants to change all that. In this Very Short Introduction to Chemistry, he encourages us to look at chemistry anew, through a chemist's eyes, in order to understand its central concepts and to see how it contributes not only towards our material comfort, but also to human culture. Atkins shows how chemistry provides the infrastructure of our world, through the chemical industry, the fuels of heating, power generation, and transport, as well as the fabrics of our clothing and furnishings. By considering the remarkable achievements that chemistry has made, and examining its place between both physics and biology, Atkins presents a fascinating, clear, and

rigorous exploration of the world of chemistry - its structure, core concepts, and exciting contributions to new cutting-edge technologies. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

The Matter Factory Peter J. T. Morris 2015-04-15
White coats, Bunsen burners, beakers, flasks, and pipettes—the furnishings of the chemistry laboratory are familiar to most of us from our school days, but just how did these items come to be the crucial tools of science? Examining the history of the laboratory, Peter J. T. Morris offers a unique way to look at the

history of chemistry itself, showing how the development of the laboratory helped shape modern chemistry. Chemists, Morris shows, are one of the leading drivers of innovation in laboratory design and technology. He tells of fascinating lineages of invention and innovation, for instance, how the introduction of coal gas into Robert Wilhelm Bunsen's laboratory led to the eponymous burner, which in turn led to the development of atomic spectroscopy. Comparing laboratories across eras, from the furnace-centered labs that survived until the late eighteenth century to the cleanrooms of today, he shows how the overlooked aspects of science—the architectural design and innovative tools that have facilitated its practice—have had a profound impact on what science has been able to do and, ultimately, what we have been able to understand.

Hazardous Chemicals

Ernst Homburg 2019-08-01

Although poisonous substances have been a hazard for the whole of human history, it is only with the development and large-scale production of new chemical substances over the last two centuries that toxic, manmade pollutants have become such a varied and widespread danger. Covering a host of both notorious and little-known chemicals, the chapters in this collection investigate the emergence of specific toxic, pathogenic, carcinogenic, and ecologically harmful chemicals as well as the scientific, cultural and legislative responses they have prompted. Each study situates chemical hazards in a long-term and transnational framework and demonstrates the importance of considering both the natural and the social contexts in which their histories have unfolded.

A Short History of Chemistry
Francis Preston Venable
1894

*A Short History of the
Progress of Scientific
Chemistry in Our Own Times*
William Augustus Tilden

2017-12-31 *A Short History of the Progress of Scientific Chemistry in our Own Times* is an unchanged, high-quality reprint of the original edition of 1899. Hansebooks is editor of the literature on different topic areas such as research and science, travel and expeditions, cooking and nutrition, medicine, and other genres. As a publisher we focus on the preservation of historical literature. Many works of historical writers and scientists are available today as antiques only. Hansebooks newly publishes these books and contributes to the preservation of literature which has become rare and historical knowledge for the future.

**A Short History of
Biology** Isaac Asimov
1980-01-01

Creations of Fire Cathy Cobb
2013-11-11 The history of chemistry is a story of human endeavor-and as er T ratic as human nature itself. Progress has been made in fits and starts, and it has come from all parts of the globe. Because the scope of this history is considerable (some 100,000 years), it is necessary to impose some order, and we have organized the text around three dis cemible-albeit gross--divisions of time: Part 1 (Chaps. 1-7) covers 100,000 BeE (Before Common Era) to the late 1700s and presents the background of the Chemical Revolution; Part 2 (Chaps. 8-14) covers the late 1700s to World War land presents the Chemical Revolution and its consequences; Part 3 (Chaps. 15-20) covers World War I to 1950 and presents the Quantum Revolution and its consequences and hints at revolutions to come. There have always been two tributaries to the chemical stream: experiment and

theory. But systematic experimental methods were not routinely employed until the 1600s-and quantitative theories did not evolve until the 1700s-and it can be argued that modern chemistry as a science did not begin until the Chemical Revolution in the 1700s. xi

xii PREFACE We argue however that the first experiments were performed by artists and the first theories proposed by philosophers-and that a revolution can be understood only in terms of what is being revolted against.