Books Briefly Noted

Alexander, Brian (2003). *Rapture: A raucous tour of cloning, transhumanism, and the new era of immortality.* New York: Basic Books. ISBN 0-7382-0761-6, pb, $15.00.

Brian Alexander takes readers into the surprising stories behind cloning, stem cells, miracle drugs, and genetic engineering to show how the battle for the human soul is playing out in the broader culture—and how the outcome will affect each and every one of us. Rapture's Dickensian cast of characters includes the father of regenerative medicine, an anti-aging guru, and a former fundamentalist Christian and founder of the company that reportedly cloned the first human cell. This motley crew is in part being united by the force of the opposition: a burgeoning coalition of conservative Republicans, the Christian right, and the Greens—predicting impending doom should we become adherents of the new bio-utopian faith. The book is irreverent, shocking, and highly entertaining as it seeks to separate hype from reality.

Anderson, John D., Jr. (2004). *Inventing flight: The Wright brothers and their predecessors.* Baltimore, MD: The Johns Hopkins University Press. ISBN 0-8018-6875-0, pb, $18.95.

The invention of heavier-than-air flight craft counts among humankind's defining achievements. In this book, the renowned aeronautical engineer John D. Anderson, Jr., offers a concise and engaging account of the technical developments that help to explain the Wright brothers' successful first flight on December 17, 1903. While the accomplishments of the Wrights have become legendary, we do well to remember that they inherited knowledge of aerodynamics and considerable flying-machine technology. Beginning with the earliest attempts at flight, Anderson notes the many failed efforts. He tells the fascinating story of aviation pioneers such as Sir George Cayley who proposed the modern design of a fixed-wing craft with a fuselage and horizontal and vertical tail surfaces in 1799 and of William Samuel Henson who won a patent in 1842 but never flew. He also examines the crucial contributions of German engineer Otto Lilienthal to the science of aerodynamics. With vintage photographs and informative diagrams, *Inventing Flight* will interest anyone who has ever wondered what lies behind the miracle of flight.

Beattie, Andrew, Paul R. Ehrlich (2004). *Wild solutions: How biodiversity is money in the bank.* New Haven, CT: Yale University Press, 2nd edition. ISBN 0-300-10506-1, pb, $16.00.

In this fascinating and abundantly illustrated book, two eminent ecologists explain how the millions of species on Earth not only help keep us alive but also hold possibilities for previously unimagined products, medicines, and even industries. In an afterword written especially for this edition, the authors consider the impact of two revolutions now taking place: the increasing rate at which we are discovering new species because of new technology available to us and the accelerating rate at which we are losing biological diversity. Also reviewed and summarized are many "new" wild solutions, such as innovative approaches to the discovery of pharmaceuticals, the "lotus effect," the ever-growing importance of bacteria, molecular biomimetics, ecological restoration, and robotics.

Bergeron, Kenneth D. (2004). *Tritium on ice: The dangerous new alliance of nuclear weapons and nuclear power.* Cambridge, MA: The MIT Press. ISBN 0-262-52433-3, pb, $15.95.

This winner of the Gold Award in Political Science in 2002 is now in paperback. For more than 50 years after the start of the nuclear age, the U.S. followed a policy barring commercial nuclear reactors from producing the ingredients of nuclear weapons. But in the fall of 2003 all that changed when a power plant operated by TVA started making tritium for the Department of Energy at the same time producing electricity for the commercial grid. Tritium, a radioactive form of hydrogen, is needed to turn A-bombs into H-bombs, and the commercial nuclear power plant that was modified to produce tritium is of a type called "ice condenser." This book provides an insider's perspective on how this nuclear policy reversal came about, and why it is dangerous.

Bødker, Keld, Finn Kensing, Jesper Simonsen (2004). *Participatory IT design: Designing for business and workplace realities.* Cambridge, MA: MIT Press. ISBN 0262-02568-X, hc, $50.00.

The goal of participatory IT design is to set sensible, general, and workable guidelines for the introduction of new information technology systems into an organization. Reflecting the latest systems-development research, this book encourages a business-oriented and socially sensitive approach that takes into consideration the specific organizational context as well as first-hand knowledge of users' work practices and allows all stakeholders—users, management, and staff—to participate in the process. Drawing on the work of a 10-

year research program in which the authors worked with Danish and American companies, the book offers a framework for carrying out IT design projects as well as case studies that stand as examples of the process.

Broadbent, Marianne, Ellen Kitzis (2004). *The new CIO leader: Setting the agenda and delivering results.* Boston: Harvard Business School Press. ISBN 1-59139-57-1, hc, $35.00.

Two converging factors—the ubiquitous presence of technology in organizations and the recent technology downturn—have brought Chief Information Officers to a critical breaking point. Then can seize the moment to leverage their expertise into a larger and more strategic role than ever before or they can allow themselves to be relegated to the sideline function of "chief technology mechanic." Drawing on extensive Gartner, Inc. interviews and research with thousands of CIOs and hundreds of companies, the authors outline the agenda CIOs need to integrate business and IT assets in a way that moves corporate strategy forward. Dozens of case examples appear throughout the book including AXA, Banknorth, British Airways, Citigroup, Commerce Bank, Disney, SKF, Starwood, Unicef, and U.S. city and federal agencies.

Bunch, B. & Hellermans, A. (2004). *The history of science and technology: A browser's guide to the great discoveries, inventions, and the people who made them from the dawn of time to today.* Boston: Houghton Mifflin. ISBN: 0-618-22123-9, $40.00.

Have you ever wondered how bridges are built? Do you know what medical discoveries led to the introduction of vaccines and antibiotics? Do you know why PCR (polymerase chain reaction) is one of the pillars of the biotechnology revolution? *The History of Science and Technology* is the ultimate resource for answers to questions about the when, what, why, and how of science and technology.

This accessible reference work, organized within 10 major periods of history, is a comprehensive, chronological guide to the scientific discoveries and technological innovations from the earliest periods of recorded history into the 21st century.

With more than 7,000 concise entries in such fields as archaeology, biology, computers, food and agriculture, medicine and health, and transportation, the book covers trends, important breakthroughs, births, deaths, and other useful information. Features include:

- in-depth section introductions that place each epoch in context
- short essays on intriguing topics, such as the history of DNA, the transit of Venus, the nature of light, and the relationship between electricity and magnetism
- 300 brief biographies of such personalities in science and technology as Galileo, the first scientist of the scientific revolution, and Charles Babbage, designer of the first mechanical computer
- 300 black-and-white drawings and photographs

Most entries are cross-referenced so that the reader can easily trace connections over time. This arrangement allows the reader to choose between following the development of a specific field through history and focusing on the breadth of innovation during a certain period.

Browsable yet richly detailed, *The History of Science and Technology* is an invaluable desktop reference for general reader and educator alike.

Campbell-Kelly, Martin (2004). *From airline reservations to Sonic the hedgehog: A history of the software industry.* Cambridge, MA: The MIT Press. ISBN 0-262-53262-X, pb, $16.95.

From its first glimmerings in the 1950s, the software industry has evolved to become the fourth largest industrial sector in the U.S. economy. Starting with a handful of software contractors who produced specialized programs for a few existing machines, the industry grew to include producers of corporate software packages and then makers of mass-market products and recreational software. This book tells the story of each of these types of firms, focusing on the products they developed, the business models they followed, and the markets they served.

Cassidy, David C. (2004). *J. Robert Oppenheimer and the American century.* New York: Pi Press. ISBN 0-13-147996-2, hc, $27.95.

The story of J. Robert Oppenheimer, physicist extraordinaire and the man who led the scientific team for the Manhattan Project that built the atomic bomb, has fascinated many people. Award-winning author David Cassidy, using previously unexamined documents, presents for the first time an integrated and coherent account of the man within the context of the nation he loved and so profoundly affected. Cassidy has crafted a richly detailed, gripping, and nuanced look at the theorist who theorized about black holes, the humanist who read Sanskrit, the man who loved his family, and the statesman who confronted the hardest

moral dilemmas and scientific problems of his age. The hidden story of the political and social forces that shaped the world in the 20th century is the rise of American science, and Oppenheimer was at its epicenter. His story is at the crux of America's astonishing rise to power and an insight into the technological progress of our nation.

Chadarevian, Soraya de, Nick Hopwood, Eds. (2004). *Models: The third dimension of science.* Stanford, CA: Stanford University Press. ISBN 0-8047-3971-4, pb, $24.95.

Now that "3-D models" are so often digital displays on flat screens, it is timely to look back at solid models that were once the third dimension of science. This book is about wooden ships and plastic molecules, wax bodies and a perspex economy, monuments in cork and mathematics in plaster, casts of diseases, habitat dioramas, and extinct monsters rebuilt in bricks and mortar. These remarkable artifacts were fixtures of laboratories and lecture halls, studios and workshops, dockyards and museums. Considering such objects together for the first time, this interdisciplinary volume demonstrates how, in research, as well as teaching, 3-D models played major roles in making knowledge. Accessible and original chapters by leading scholars highlight the special properties of models, explore the interplay between representation in two dimensions and three, and investigate the shift to modeling with computers. The book is fascinating reading for anyone interested in the sciences, medicine, and technology, and in collections and museums.

Clarke, David, Ed. (2005). *Theory of technology.* New Brunswick, NJ: Transaction Publishers. ISBN 0-7658-0844-7, pb, $29.95.

The history of technology is often troubled by good ideas that do not, for one reason or another, take off right away—sometimes for millennia. Sometimes, technology comes to a standstill, and sometimes, it even reverses itself. Thus, unlike science, which seems to proceed at a reasonable and calm rate, the progress of technology is difficult to theorize about. David Clarke brings together 10 authors from a range of disciplines who try to understand technology from a variety of viewpoints. These essays originally appeared in two issues of *Knowledge, Technology & Policy* in 2002 and 2003.

Eglash, Ron, Jennifer L. Croissant, Giovanna Di Chiro, Rayvon Fouché, Eds. (2004). *Appropriate technology: Vernacular science and social power.* Minneapolis, MN: University of Minnesota Press. ISBN 0-8166-3427-0, pb, $25.95.

From the vernacular engineering of Latino car design to environmental analysis among rural women, to the production of indigenous herbal cures—groups outside the centers of scientific power persistently defy the notion that they are merely passive recipients of technological products and scientific knowledge. This work is the first study of how such "outsiders" reinvent consumer products—often in ways that embody critique, resistance, or outright revolt.

Emsley, John (2004). *Vanity, vitality, and virility: The science behind the products you love to buy.* New York: Oxford University Press. ISBN 0-19-280509-6, hc, $28.00.

Acclaimed popular science writer John Emsley explains the nature and behavior of about 40 ingredients that play important roles in every aspect of modern living. There are chapters on cosmetics, foods, sex, hygiene, depression, and on four unexpected ways in which modern products improve our lives. So if you have ever asked yourself whether cosmetics can deliver what they promise, whether certain spreads really can reduce cholesterol, whether nitrates in water are a cause of cancer, or whether Prozac is as safe as they say, dive into *Vanity, Vitality, and Virility* and discover things you always wanted to know.