

BOOK REVIEW:

**Lost Discoveries: The Ancient Roots of
Modern Science From the Babylonians to
the Maya**

By

Dick Teresi

New York: Simon & Schuster, 2002, 453 pp., \$27.00.

This book is a most unusual history of discoveries from the earliest times that became the foundation of much of present day science. It covers mathematics, astronomy, cosmology, physics, geology, chemistry, and the area now called technology.

Early on, Teresi points out that, contrary to common assumptions prior to recent times, scientific and technological knowledge flowed from Islam and China into Europe. He notes that early on, he intended to show that the pursuit of non-white science would be a waste of time, but he wanted to highlight whatever meager non-European science might exist. To his pleasant surprise, he came across four thousand years of scientific discoveries by these people. As a result, Teresi's book became a treatment of much more than the scientific advances achieved by the Europeans. Actually, the author found that many European advances were in fact based on early discoveries from the near and middle east. Teresi describes science as a logical and systematic study of nature and the physical world. Usually, it involves a blend of experiment and theory. Theories either arise from or are verified by experiment. His first chapter, "A History of Science: Rediscovered", provides an excellent preview of the multitude of advances that he describes throughout the work in a systematic fashion. The second chapter, "Mathematics: The Language of Science", is devoted to a detailed treatment of the topic. He describes how the findings of Indians, Chinese, Arabs, Babylonians, and Maya provided what eventually became the mathematical foundation of science in the western world. Teresi describes these findings in a manner that is understandable to the average reader.

"Astronomy: Sky Watchers and More" is the subject of the third chapter. An early discovery was that the sun, planets, and stars traversed the sky with a predictable regularity. Many of the early scientists were so fascinated by this revelation that some of them considered the possibility that the lives of humans could also be charted with similar regularity. Tycho, Kepler, and Galileo were among those who wondered about that

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notion. Eventually, astrological events came to be the basis of the calendar in different parts of the world. A natural follow-up to the chapter on astronomy is "Cosmology: That Old-Time Religion". Teresi defines Cosmology as the study of the universe as a whole, its history and its origin. He points out that many religious and social beliefs were based upon elements in cosmology. The present day cosmological model is the "big bang" theory. Like other conjectures as to the origins of the cosmos, the start of it all remains unanswerable. Included in this chapter are creation stories based upon elements in cosmology.

The last four chapters cover the broad subjects of Physics, Geology, Chemistry, and Technology. For each subject, the author reveals the major contributions made by non-western people to their advancement. Pointed out is that people from virtually every geographic region on earth have made significant contributions to the advancement of technology over the ages.

This book provides a wealth of information, going back to the very earliest times, regarding the contributions of people in all parts of the world, to the progress of various aspects of science. Teresi's book provides a very comprehensive history of science. What makes it particularly unique is that it encompasses three critical aspects of a good history – it is authoritative, it is written in language that can be understood by lay people, and it is a truly multicultural treatment of the subject. It is so detailed, however, that the reader must pause occasionally to absorb the vast amount of material provided. A thorough section on Notes is provided, which is of particular value to those who want to delve further into the topic in question. The Bibliography is noteworthy, as is a 20-page Index. Teresi's book is well worth reading.

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BOOK REVIEW:

**Against the Machine
The Hidden Luddite Tradition in
Literature, Art, and Individual Lives**

By

Nichols Fox

Washington: Island Press/Shearwater Books 2002, 404 pp., \$25.00

Early on in her book, Fox points out the origins of the term "Luddite". Back in 1811 to 1816, an Englishman named Ned Ludd helped to organize a group of men to rebel against the installation of new technology in the textile region of England. The basis for their uprising was the elimination of jobs due to the introduction of machines in the spinning industry. The workers destroyed the new spinning machinery that they attributed to the loss of their jobs. As a result, the government responded to suppress the movement with swift and brutal action. In spite of the brutal repression, the plight of the workers and the principle behind their actions has fired up the imaginations of many thinkers and writers since that time. As late as 1996, author Kirkpatrick Sale stood before a public forum and smashed a computer. His motive for the display was his desire to make the connection between resisting technology in the past and resisting it in contemporary times. Fox skillfully blends both past and recent incidences to show that opposing technology has resonance and meaning in the modern day world. She labels these individuals as Luddites.

In a most fascinating manner, the author devotes eleven chapters to drawing out aspects of modern society in which the resistance to aspects and the effects of technology exist. Chapter One, "The Kellams and Their Island" is a captivating way to develop the topic. Fox opens her book with the story of an unusual couple who lived the latter part of their lives on one of the many islands found off the coast of Maine. It is named Placentia, which is believed to be a corruption of the French word for pleasure. They moved to the island after leading successful lives in the relatively well-to-do world. Upon their retirement, they decided to live by themselves away from the modern world and to stay as close to nature as possible. The chapter in which their life style is described in detail sets off the book in its discussion of resistance to technology. The fact that Fox herself lives on an island off the coast of Maine may have something to do with her devoting an entire chapter to the Kellams. A review of the

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original revolt in England is presented in Chapter Two, "The Frame Breakers". Fox skillfully presents the strong connection between our times and then – when technological changes were affecting lives at a frantic pace with the potential of job displacements. And not unlike present day movements in industry, the technology changes remained in spite of employees, widespread concern about their effects upon job security and their peace of mind.

Fox points out that every person has a touch of resistance to technology. The fact that she chooses to live on an island near Bar Harbor, Maine, where she runs a small independent bookshop, may be an indication of her own antipathy toward technology. Fox searched the literature in her quest to find noted individuals who possess Luddite tendencies. In Chapter Three "Romantic Inclinations", she identifies the work of noted poets and authors who displayed the trait. Fox found well-known people with "Luddite tendencies" in virtually all aspects of life. Included among those are such great minds as Charles Dickens, John Ruskin, Henry David Thoreau, Ralph Waldo Emerson, and Rachel Carson. A case is made, for example, that people who would rather be outdoors and those who love their own gardens have Luddite characteristics. In her last chapter "Looking for Luddites", the author reveals the presence of a good number of them along the coast of Maine, persons she describes as "back-to-the-landers" and "technology resisters". She mentions that Maine and England are good places to look for Luddites. In retrospect, the work is exceptionally well written and supports the notion that each person has a bit of the Luddite in them. Every chapter is documented in detail. The Notes and Index sections serve as a good way for the reader to find additional information. This is a timely book, considering the impact of technology in contemporary times, although its intensity can become tiresome as the reader approaches the final chapters. All in all, it is an informative and interesting read.

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BOOK REVIEW:

The Man Who Changed How Boys And Toys Were Made

By

Bruce Watson

New York: Viking, Penguin Putnam, 2002. 216 pp., \$24.95

The subtitle of this book "The Life and Times of A. C. Gilbert, the Man Who Saved Christmas" is an appropriate one. It is a lively written biography of the man who invented the Erector set. Its popularity back during the era that spanned the two World Wars, swept the country and many other places in the world. As a construction toy for youngsters, especially boys, it served as an inspiration for engineering, making it a more glamorous profession. Even though its popularity has greatly diminished in recent decades, it will be remembered as a part of the history of engineering.

In 1913, at age 29, being a boy at heart, Gilbert came upon the notion of a new toy. Gilbert named the gadget the "Erector set". Its appearance swept the nation by storm. The device had a dual interest. First, it captured the imagination and enthusiasm of boys. Second, parents saw it as a creative and safe outlet for the energies of their rambunctious sons. Because of the mutual interest of both boys and their concerned parents, the Erector set resulted in the inventor's small business being transformed into the world's largest producer of toys. Added to the growth of the company was Gilbert's marketing flair, exhibited by his writing letters to boys that were attached to the enclosed instruction manuals. Many of the youngsters wrote to him, signing their letters as "Your Loving Son".

Watson provides the reader with a book that does more than recreate the life of this outstanding individual. In addition, the book is filled with descriptions of the world at the time that Gilbert was alive. Of equal significance is the author's ability to describe how the inventor greatly influenced many aspects of American culture at that time, including inspiring young girls to become interested in engineering as opposed to the stereotypical view of it as a profession earmarked only for boys. Gilbert was an unusual individual to begin with. His family was the nurturing type, allowing him "space" to be his own person. As a child in Moscow, Idaho, he built an athletic club in his barn, an early sign of his innovativeness. Included in his wide range of interests was making magic and he became the best boy magician in town. When he came to

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New Haven in 1905, Gilbert performed magic shows that ranged from five dollars for children's parties to one hundred dollar a-night shows in clubs in Connecticut and New York. He also became a member of the Mysto Manufacturing Company, which produced a variety of toys. His role there was to practice his magic skills. Another success as a youngster was his invention of a vaulting technique that eventually became widely used after he himself utilized it to win an Olympic gold medal. During his active life, he was an athlete, magician, medical doctor, marketing genius, and millionaire. As noted throughout this biography, he was always a boy at heart.

After receiving a doctor's degree at Yale, he lived in New Haven with his wife and daughter. When he was twenty-seven years old, the concept behind an erector set came to him while commuting to New York. The idea to start a toy business came to him during the Fall of 1911. New construction was in evidence as the railroad was being converted to electrical power. The efficiency of the handiwork associated with the erection of towers, twenty-foot-tall steel lattices with triangular braces at the tops to hold high-voltage lines became very fascinating to him. Upon returning home, he got his wife to help him make an assortment of notched and perforated shapes, curves and braces out of shirt cardboards. After devoting several evenings to making a complete assortment of cardboard parts, Gilbert had a machinist convert them into steel. After a few modifications, he successfully erected his first railroad tower replica. Soon after that, his father and he bought out the Mysto Manufacturing Company. Within a short time, the proceeds of the company skyrocketed as the popularity of the Erector Set increased. The ten chapters in this book are oriented around the biography of A. C. Gilbert, although there are frequent side discussions of his achievements on the way. The last chapter addresses the issue of contemporary children's toys. Included is a list of ten questions that parents should ask before buying a toy. Among the group are two queries that were among the chief strengths of the old time Erector Sets: Is it one the child will enjoy for a long time? Does the toy stimulate creativity? In retrospect, it is seen that Gilbert struck a chord with children of his time with regard to these two questions. The Epilogue is a fitting ending for this work. It is written in non-technical language and is easy to follow. Somewhat meager, but adequate never-the-less is the Index. Overall, the book is a good read.

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