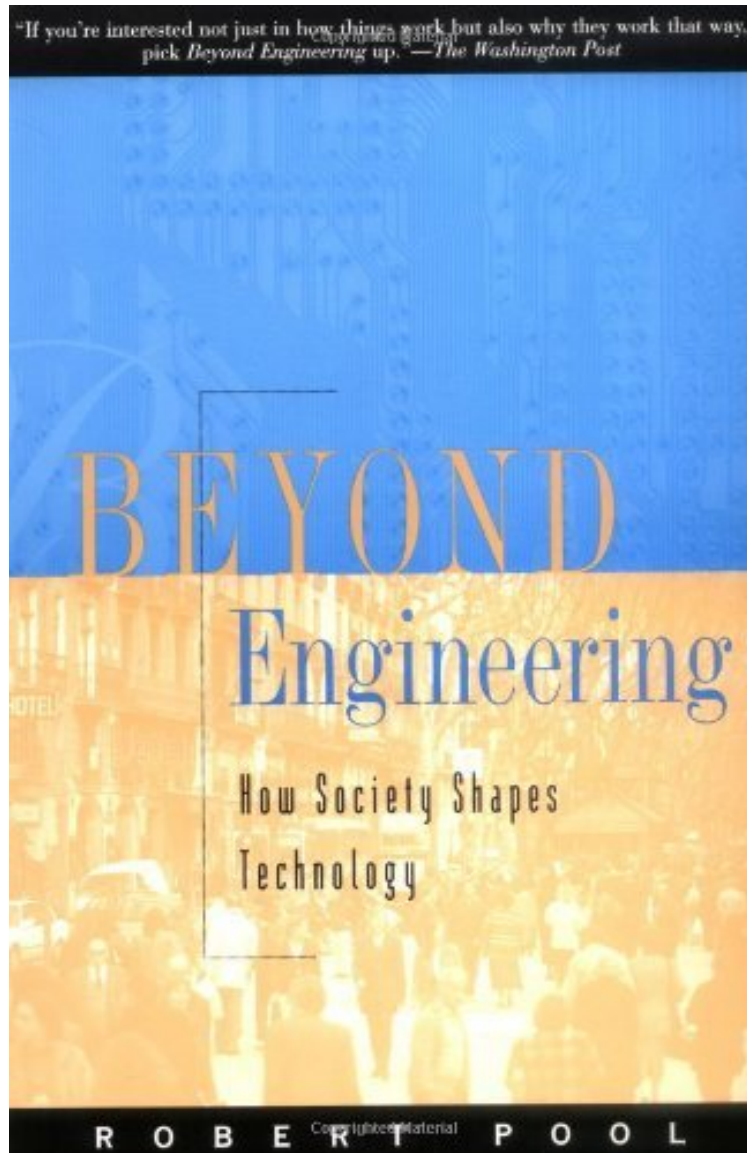


[PDF] Beyond Engineering: How Society Shapes Technology (Sloan Technology)

Beyond Engineering: How Society Shapes Technology (Sloan Technology)

Robert Pool

*ebooks / Download PDF / *ePub / DOC / audiobook*



[Download](#)

[Read Online](#)

#1126463 in eBooks 1999-07-29 1997-07-17 File Name: B000SBL8P2 | File size: 53.Mb

Robert Pool : Beyond Engineering: How Society Shapes Technology (Sloan Technology) before purchasing it in order to gauge whether or not it would be worth my time, and all praised Beyond Engineering: How Society Shapes Technology (Sloan Technology):

6 of 6 people found the following review helpful. Outstanding Thematic Study of Society and Technology By Customer Beyond Engineering is the brightest of the many shining stars that make up the Sloan Technology Series. It

is easily the most educational, enlightening and thought provoking ("The One Best Way" by Kanigel being a close second) of the series, and will be the barometer by which I personally measure all future popular technology books. Mr. Pool looks at the way in which technology and society shape each other by looking at eight key elements of these interactions. These areas form the chapters of *Beyond Engineering*, with Mr. Pool frequently using many poignant technological case studies, biotechnology, steam powered automobiles, the Xerox Alto, and many others. The recurring case study which unites the book is that of the nuclear power industry in the U.S. Despite the non-chronological nature of this story, it is told thoroughly, using just the right amount of technical explanation to explain without overwhelming. Indeed, Mr. Pool began his book as a history of the US Nuclear Power Industry, but changed his topic as several other authors beat him to it ("Nuclear Choices" by R. Wolfson and "Nuclear Renewal" by R. Rhodes). It is a good thing they did, otherwise he would not have looked at this as merely a case study, in which to frame socio-technological interaction. The eight areas that are covered; momentum, idea creation, business, complexity, choices, risk, control and trade-offs are very quickly paced and liberally sprinkled with very poignant references. His thematic review of the subject matter is similar to the author Lisa Jardine's histories of the Renaissance and Scientific Revolution. The most frequently referred to text is Kuhn's classic "The Structure of Scientific Revolutions." This book could be viewed as the technological adaptation of Kuhn's scientific applications. There are no ways in which the text disappoints, and it would be difficult to endorse it any more enthusiastically than I am. This book will be of benefit to anyone that works in technology, has a general interest in that area, is curious about nuclear power, or is simply looking for a good book.

0 of 0 people found the following review helpful. Excellent guidance for a successful engineering career

By Jose Machicao I am using this book as a foundation to teach about the connection between engineering careers and the ability to do business, for both undergraduate mechanical engineering students and post-graduate engineering students, with excellent results, especially because of the continuous link between the concepts and practical cases along the book. Very useful and profound tool to educate engineers to be successful within this dynamic time.

0 of 0 people found the following review helpful. good read, glad my class required it

By Nickpool explains how society impacts technology and vice versa, with emphasis on the development on nuclear technology, the ethics behind it, and other examples of how engineers shape our society and must consider different factors of safety

We have long recognized technology as a driving force behind much historical and cultural change. The invention of the printing press initiated the Reformation. The development of the compass ushered in the Age of Exploration and the discovery of the New World. The cotton gin created the conditions that led to the Civil War. Now, in *Beyond Engineering*, science writer Robert Pool turns the question around to examine how society shapes technology. Drawing on such disparate fields as history, economics, risk analysis, management science, sociology, and psychology, Pool illuminates the complex, often fascinating interplay between machines and society, in a book that will revolutionize how we think about technology. We tend to think that reason guides technological development, that engineering expertise alone determines the final form an invention takes. But if you look closely enough at the history of any invention, says Pool, you will find that factors unrelated to engineering seem to have an almost equal impact. In his wide-ranging volume, he traces developments in nuclear energy, automobiles, light bulbs, commercial electricity, and personal computers, to reveal that the ultimate shape of a technology often has as much to do with outside and unforeseen forces. For instance, Pool explores the reasons why steam-powered cars lost out to internal combustion engines. He shows that the Stanley Steamer was in many ways superior to the Model T--it set a land speed record in 1906 of more than 127 miles per hour, it had no transmission (and no transmission headaches), and it was simpler (one Stanley engine had only twenty-two moving parts) and quieter than a gas engine--but the steamers were killed off by factors that had little or nothing to do with their engineering merits, including the Stanley twins' lack of business acumen and an outbreak of hoof-and-mouth disease. Pool illuminates other aspects of technology as well. He traces how seemingly minor decisions made early along the path of development can have profound consequences further down the road, and perhaps most important, he argues that with the increasing complexity of our technological advances--from nuclear reactors to genetic engineering--the number of things that can go wrong multiplies, making it increasingly difficult to engineer risk out of the equation. Citing such catastrophes as Bhopal, Three Mile Island, the Exxon Valdez, the Challenger, and Chernobyl, he argues that it is time to rethink our approach to technology. The days are gone when machines were solely a product of larger-than-life inventors and hard-working engineers. Increasingly, technology will be a joint effort, with its design shaped not only by engineers and executives but also psychologists, political scientists, management theorists, risk specialists, regulators and courts, and the general public. Whether discussing bovine growth hormone, molten-salt reactors, or baboon-to-human transplants, *Beyond Engineering* is an engaging look at modern technology and an illuminating account of how technology and the modern world shape each other.

From Library Journal This thoughtful, well-researched title by science writer Pool (Eve's Rib, LJ 5/1/94) lays out a rich, comprehensive view of the development of modern technologies, with a keen emphasis on how nontechnological factors such as the sociological, political, and simply serendipitous shape such complex technologies. Pool begins

with a positivism vs. "social construction" epistemological debate (essential to understanding technological knowledge, he argues) and a discussion of the effects of history, economics, political science, sociology, risk analysis, management science, and psychology on the technology that has both ameliorated humankind's condition and made it worse. The progress in modern aviation, computers, automobiles, bovine growth hormone, treatment for AIDS, and nuclear power (the evolution of which is treated extensively and serves as an underlying current throughout the book) is covered carefully in a fluent style. Copious end notes buttress the solid exposition. Recommended for general science collections. ?Robert C. Ballou, Atlanta Copyright 1997 Reed Business Information, Inc. "It's a truism that technology has driven modern history. In this wise, insightful book, Robert Pool explores the deeper truth that history shapes technology."--Richard Rhodes, author *The Making of the Atomic Bomb*. About the Author Robert Pool writes for *Discover* and *New Scientist* and is author of *Eves Rib*. He lives in Arlington, Virginia.