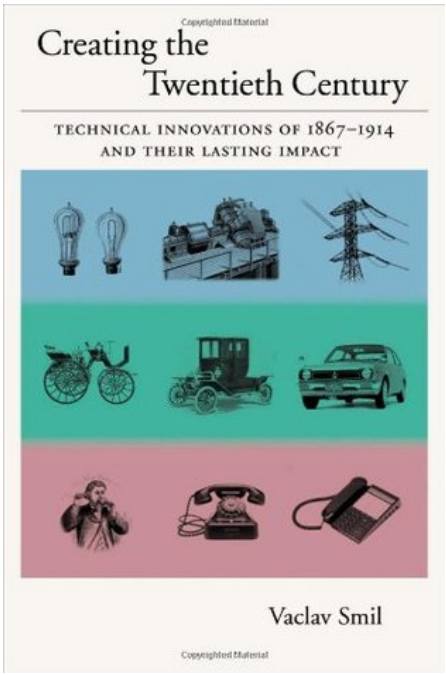

Creating the Twentieth Century: Technical Innovations of 1867-1914 and Their Lasting Impact

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The period between 1867 and 1914 remains the greatest watershed in human history since the emergence of settled agricultural societies: the time when an expansive civilization based on synergy of fuels, science, and technical innovation was born. At its beginnings in the 1870s were dynamite, the telephone, photographic film, and the first light bulbs. Its peak decade - the astonishing 1880s - brought electricity - generating plants, electric motors, steam turbines, the gramophone, cars, aluminum production, air-filled rubber tires, and prestressed concrete. And its post-1900 period saw the first airplanes, tractors, radio signals and plastics, neon lights and assembly line production. This book is a systematic interdisciplinary account of the history of this outpouring of European and American intellect and of its truly epochal consequences. It takes a close look at four fundamental classes of these epoch-making innovations: formation, diffusion, and standardization of electric systems; invention and rapid adoption of internal combustion engines; the unprecedented pace of new chemical syntheses and material substitutions; and the birth of a new information age. These chapters are followed by an evaluation of the lasting impact these advances had on the 20th century, that is, the creation of high-energy societies engaged in mass production aimed at improving standards of living.

Creating the Twentieth Century: Technical Innovations of 1867-1914 and Their Lasting Impact Details

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From Reader Review Creating the Twentieth Century: Technical Innovations of 1867-1914 and Their Lasting Impact for online ebook

Dan says

I have very mixed feelings about this very absorbing book about the development of electric power transmission, internal combustion motors, new chemical processes, and telephone and radio in the period from 1865 to 1914.

Smil is a great story-teller, weaving in technical details about the individual inventions with the broader picture of overwhelming and rapid technological change. (But he assumes a fairly high level of technical knowledge going in -- for example he gives a great explanation of the Otto cycle in a normal gasoline engine, then doesn't give any description of the combustion cycle in a Diesel engine. Keep Wikipedia handy.)

Smil demolishes the image of Edison and other inventors as brilliant geniuses who created their invention through tinkering. He shows that the technical innovations of this time were grounded in a revolution in science, and that scientific theory often preceded the development of new inventions.

One of the markers Smil gives for this "Age of Synergy" is the publication of Capital in 1867, " a muddled but extraordinarily influential piece of ideological writing." But I actually think Capital is a great companion volume to this book, or this book to Capital. Capital places these extraordinary changes in the context of the development of the accumulation process. The drive for accumulation pushed capitalists to increase the productivity of labor (electric motors, electric lighting, steam turbines), create new products (new fertilizers thru the Haber process), and speed up global transportation and communication (the internal combustion engine, telephone, radio). Smil hints at these connections all over place, like when he describes how electricity and the electric motor revolutionized factory production and increased the flexibility of production design by eliminating steam-driven belts.

I left this book wanting to read more Smil.

Bart says

A great book, which goes a long way to dispelling the myth of "ever-accelerating technological change". Smil clearly elucidates something I've long believed: that my grandparents went through far more dramatic changes in lifestyle due to technology than my generation has experienced. Unfortunately, many of the illustrations (primarily drawings from patent applications) are cryptic and not very helpful;; but fortunately, Smil's explanations are clear enough that the illustrations are seldom essential.

Nick Aurelius says

Well written, interesting historical account of the amazing innovations made only about 100 years ago.

Sanjay Varma says

This book is aimed perfectly by the author, to proclaim the special debt we owe to the period of technical innovation from 1880 to 1940 that gave us electricity, engines, radio, and film.

But the writing style is very bad. It reads like someone is summarizing other books they have read. Information is duplicated many times because the author could not synthesize his sources into a coherent narrative.

I also wish the author had spent some pages to compare this age of innovation with out modern age of computers, data, and satellites.

Clogs says

A facilitating read but also a very deep and long read. This is not a page turner. A deep look at the technical advances that made the modern world.

An actual quiet fascinating book. I've found that I've been talking about lots of the ideas me outcomes of the book at social events recently. It's super geeky, but works. People seem to be interested.

It's a fairly fascinating review of the drivers of change bin our society through the lens of technology - however smil would never use the word technology.

It's about innovation, both technical and commercial and tonnes of hard work. Nothing happens without intense effort and some competition. And almost always 2 or more people chasing the same basic goal with different techniques. And on eventually prevails.

Eg. Electric distribution with AC power from Tesla. Despite Edison going for DC and having invented the lightbulb.

A few more interesting facts about the inventors and innovators and some more social context stories may have made this a little more entertaining.

A super long 318 pages.

Joe Q. says

"Creating The 20th Century" provides an overview of the technical innovations of the period roughly from 1867 to 1914, arguing that a unique confluence of inventive activity, patent prosecution, and prompt commercialization led to a highly synergistic transformation of daily life during this period that has no prior parallel.

The author's case is persuasively argued and the book makes for a very interesting, if sometimes plodding,

read. Technically oriented people who are not themselves mechanical or electrical engineers will probably find themselves longing for more detailed explanations of how the various described inventions actually functioned. The author assumes a fair bit of background knowledge in these areas, going so far as to reproduce drawings from patents with minimal comment, seemingly with the expectation that the reader will understand the devices described without further elaboration.

The book is densely written and could probably have benefited from a heavier editorial hand (to clear up some grammatical confusion and correct errors in some of the figures). Nonetheless, it has much to offer readers who are interested in the history of innovation and engineering, especially the global or "holistic" view of how the use of money, energy, and time changed so dramatically in the 19th and early 20th centuries as a result of technical advances, and how these transformations still form the core of modern Western society.
