

Reviews

Creating the Twentieth Century: Technical Innovations of 1867–1914 and their Lasting Impact

By Vaclav Smil. New York: Oxford University Press, 2005. Pp. vi + 350. ISBN 0 19 516874 7

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The years 1867–1914 witnessed an explosion of technical innovations that transformed the lives of the peoples of Europe and North America and changed their economies more dramatically than any comparable period of history before or since. So argues Vaclav Smil in this major contribution to the history of what he calls ‘the inappropriate, but now generally accepted term technology’.

Smil stresses a few key innovations: electricity and its use in lighting and motors; the internal combustion engine and its application to automobiles and airplanes; the industrial mass production of steel, aluminum, and ammonia; typesetting, the typewriter, cheap paper, the telephone, and wireless communication. Not surprisingly for someone who has written a great deal on the subject of energy, Smil is especially thorough in his discussions of prime movers – steam turbines, electric generators, internal combustion engines. He describes these inventions in detail, never shying away from complex technical explanations. He discusses not only well-known inventors such as Edison, Marconi, and Ford, but also many others whose important contributions have been neglected in other histories of that period. Much of his book focuses on patents and the litigation surrounding them. Historians of technology and all readers interested in the genesis of modernity will welcome this book as an essential reference

work on a crucial period and its most salient technical innovations.

Few would argue that the innovations of the period Smil calls the Age of Synergy transformed lives and entire societies more than in any previous period. Yet many of us living in the so-called Information Age believe that ours is just as revolutionary a time, if not more so. The problem arises from Smil’s description of the impact of these inventions on society, not only in the period 1867–1914, but throughout the twentieth century and right up to the present. In order to make the case for the uniquely revolutionary quality of the Age of Synergy, Smil has to fudge the distinction between innovations that had a dramatic impact at the time – electric lights and motors, cheap steel, and, to a lesser degree, telephones – and those whose impact was not felt until much later. Among them, I would argue, are the automobile (still a rare luxury in 1913), the airplane (flown by a handful of pioneers to great newspaper acclaim), radio-telegraphy (still in its infancy, as the sinking of the *Titanic* proved), and, most clearly, radio broadcasting. In contrast to Smil’s careful and thorough descriptions of inventions and their inventors, his generalizations about their social consequences are too sweeping, for he generalizes from the first adopters – middle or upper-class urbanites – to entire nations and from them to the world. Had he discussed only those inventions that changed lives and had an economic impact before 1914, his argument would have been much more modest.

It is to be expected that a book that places such emphasis on certain technologies has to neglect others. It is nonetheless disappointing that Smil barely mentions the germ theory of disease and other revolutionary advances in medicine and their enormous consequences for public health before the First World War. Lower morbidity and mortality rates did not come only from improvements in pipes and pumps, but from an understanding of why these

devices worked. Likewise, Smil never mentions military weapons and tactics. This too is surprising, for his Age of Synergy was also the Age of Imperialism when the nations he highlights conquered half the planet and, having done that, geared up to destroy one another.

Where Smil parts company with other historians of technology is in what Joel Mokyr describes, in the blurb on the dust jacket, as ‘current-day fashions in the history of technology’, namely the social matrix in which these innovations take place. When discussing the genesis of innovations, Smil is careful to introduce the importance of scientific knowledge. But he does not ask why such a spate of innovations occurred in this era rather than another, or in those particular countries – Great Britain, Germany, the United States, and France – rather than others, or why no women were involved in this technological revolution, or why consumers took eagerly to certain innovations and not to others. His book, then, is a classic example of an internalist history of technology.

Granted, its rival, the social construction of technology, has been taken up by some as a trendy fashion, but for others it has been a major contribution to our understanding of history. Thus, Smil cites Thomas Hughes’s magisterial work on electrification, *Networks of power*, but seems to reject its message, namely that the introduction and adoption of this key innovation did not flow naturally from its technical characteristics, but was the result of many complex political, economic, and cultural factors.

In conclusion, *Creating the twentieth century* is a very valuable contribution to understanding the world we live in. But to get the full picture, one should read it along with works that give the social dimensions of that remarkable era.

Labour and New Social Movements in a Globalising World System

By Berthold Unfried and Marcel van der Linden, eds., with the help of Christine Schindler. Leipzig: Akademische Verlagsanstalt, 2004. Pp. 253. (ITH-Tagungsberichte 38). ISBN 3-931982-36-X

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Globalization, as the two editors argue in their introduction, is not a recent phenomenon but

has its own history that needs to be explored in order to understand current developments within the labour movement. If globalization leads to the loss of the nation state’s potential to regulate economic and social affairs, it must affect the labour movement, which itself developed its strength and power within the context of the nation state. This volume contains twelve papers, four of them in German and the rest in English, given at the 38th *Internationale Tagung der HistorikerInnen der Arbeiter- und anderer sozialer Bewegungen* in Linz in 2003. Its purpose is to investigate the effects of globalization on the labour movement, and to ask whether this movement will be able to operate as a global actor. Although the authors use quite different approaches, and cover various topics, the editors unfortunately do not provide any overall structure for the essays. From a pragmatic point of view, one can distinguish between essays dealing with the history of the labour movement (Beverly J. Silver, Guenther Benser and Juergen Hofmann, Marcel van der Linden, Willy Buschak, and John D. French) and those that analyze recent developments (Uli Schoeler, Ronaldo Munck, Jeffrey Harrod, Andrew Herod, Peter Newell, Minjie Zhang, and Ricardo Aronskind).

Looking at the history of the labour movement, Silver observes a close relationship between labour unrest and war. According to her, recent changes in warfare insulate ‘First World’ workers from the horrors of war, and therefore no longer provoke a radicalization among them and other oppositional social movements. The new global political and military context dissolves the relationship between interstate and domestic conflicts, facilitates the weakening of the social welfare system, and reduces workers’ rights. Benser and Hofmann analyze the different phases of globalization, starting with the rise of the capitalist system in the fifteenth century. The international labour movement in the twentieth century was shaped by worldwide competition between liberalism and communism, which not only determined the politics of communist countries but also affected the strategy of Western social democracy towards globalization. Van der Linden differentiates five phases of the international union movement, covering the period from the early nineteenth century to the 1960s. The current phase he calls the ‘transformation phase’, but he does not relate this to the globalization process. For the future he predicts a ‘transnational internationalism’, which will go beyond eurocentric definitions of the working class, take into account aspects of gender and race,