

A History of the United States: Inventing America. *By Pauline Maier, Merritt Roe Smith, Alexander Keyssar, and Daniel K. Kevles.* New York: W. W. Norton, 2002. Illustrations. Cloth, \$95.15; paper, \$150.60 (2 volumes). ISBN cloth: 0-393-97434-0; paper (vol. 1): 0-393-97435-9, (vol. 2): 0-393-97762-5.

By Steven W. Usselman

*Inventing America* is surely one of the most anticipated U. S. history textbooks to appear in recent decades. With ample support from the Sloan Foundation, its distinguished authors set out to write a distinctive survey that would treat “science and technology as integral elements of American history” (p. xxi). In pursuing what they characterize as this “most original aim,” the authors hope to offer readers more than the sprinkling of science and technology found in most current texts. They wish instead to illustrate the centrality of technology and science to the nation’s history. This they promise to do in part by showing special concern with “the transforming dynamism of business enterprise and its effects” (p. xxi). Readers of this journal may thus justifiably approach the book with unusual interest and expectation. Even for those not looking to assign an undergraduate-level text themselves, the book constitutes a rare effort to incorporate scholarship in business history and related disciplines into the teaching of American history. It thus begs the question, Are we making a difference to our largest potential audience?

Ultimately, of course, students will have a lot to say about the matter. No U. S. history text can have much of an impact in this crowded market if it does not appeal to students. The largest sellers with the longest publishing runs tend toward direct argument with little qualification and minimal supporting detail. They use simple language packaged in short sentences and paragraphs that are broken by frequent headings and colored print. This book falls clearly on the other end of the spectrum. Its sophisticated, nuanced arguments are carefully hedged and buttressed with rich detail. The prose is consistently elegant but not easily accessible. Key facts are buried in long paragraphs. There are precious few tables or graphs. Aside from a few basic questions introduced at the start of each chapter, one of which graces the top of every double-page spread, the

book offers virtually no study aids. The work incorporates loads of thoughtfully chosen illustrations, including many not featured in other texts, but most of the space is filled with large chunks of unbroken text. (The designer, perhaps sensing trouble, frequently borrows a tactic employed by many current magazines, breaking up each page with a bold, highlighted sentence pulled from the text.) All this adds up to a surprisingly good read for a professional historian. Whether undergraduates who may be taking their sole history course feel the same way only time will tell.

Professional historians, especially those interested in science, technology, and business, cannot help but be impressed by what the authors have accomplished. They have packed a remarkable amount of learning into this book. A close reading reveals one important insight after another—far too many to recount in detail here. Rather than marshal such a survey, the comments that follow attempt to step back and assess some general attributes of the work.

Its great strength is in the details. Readers expecting a dramatic departure in basic content or organizational structure will likely be disappointed. Like many textbooks that have attempted in recent years to incorporate insights from social history, *Inventing America* supplements and enriches the prevailing approach to the survey, rather than supplanting it. The book hews closely to the familiar framework used by most texts. Major political events form the basic chronology and dictate most of the chapter breaks. The two-volume paperback version divides conventionally, with each half containing a shared chapter on Reconstruction. No presidential election or administration is left unexamined. Indeed, the book contains some of the most detailed scrutiny of federal executive policy and Supreme Court doctrine found in any current text. A few chapters have titles and introductory sections hinting at an emphasis on science and technology, but when considered in their entirety, even these chapters generally closely parallel the treatment of these topics in conventional texts.

The most significant departures from established form have little to do with science and technology per se, but instead involve the book's unusually thorough treatment of international affairs. One chapter, for instance, is taken up entirely with diplomacy between the world wars, material that, in many texts, is condensed into a chapter on World War II. Postwar diplomacy likewise is dealt with extensively in

successive chronological chapters covering the years 1945 through 1956. This emphasis, moreover, is not limited to the era of global supremacy. Several chapters of Volume One contain exceptionally detailed material on foreign affairs and military actions during the first half of the nineteenth century. The sections on colonial America and the Revolutionary Era, written by Pauline Maier, persistently delineate the challenges faced by Parliament, the Crown, and the Founders in trying to administer a sprawling frontier empire surrounded by European rivals. A reader unaware of the authors' stated objectives might well conclude that they had set out to demonstrate the importance of international events to American history.

Another striking and admirable feature of this book is its refreshing emphasis on the modern West, especially California. Daniel Kevles, principal author of the book's final chapters, taught for many years at Caltech and has a good feel for the state. Among the many benefits to emerge from his background is that the several sections on women and minorities incorporate substantial material pertaining to Hispanics. The other dynamic region of the postwar period, the South, fares less well. One finds the basic elements of the region's history, such as major events in the Civil Rights movement and the turn toward the Republican Party. But because this part of the book is broken into small chronological units and its organization parallels events of national politics, the material is highly fragmented, thus depriving the South's dramatic transformations of their texture and drama. Students will come away with little sense of how fundamental reforms in areas like civil rights typically involve sustained, broad-based struggle by many participants across time.

These comments about the book's approach to the recent South in many respects apply to the whole endeavor. In general, its authors are not inclined to emphasize broad, transforming social and economic forces operating across time. They are much more concerned with providing close, detailed sequencing of events, especially those occurring at the highest levels of government. To be sure, one will find ample material on subjects such as religion, literary culture, and work routines. The text is, above all, extraordinarily comprehensive. Yet, in the final analysis, I come away from this text with a sense of American history as an ongoing series of political contests, policy disputes, and international crises managed by chief executives who had significant influence over

particular outcomes. This is not a portrayal of leaders swept up in larger forces beyond their, or anyone else's, capacity to control.

These essential attributes fundamentally shape the book's handling of science, technology, and business. Its many insights into these matters tend to be focused and particular. The authors make few broad claims regarding the far-reaching influence of key technologies. Television and video recording in this narrative alter presidential campaigns and influence public response to accidents, such as the Challenger disaster; they do not, here, fundamentally reshape leisure time or reconstitute social alliances and personal identities. Autos, roads, and radio broadcasting, a trio of technologies that many texts stress as factors ushering in "a new age" or bringing about "modernity" during the nineteen twenties, receive comparatively scant consideration here. They do not remake society or compel fundamental changes in American governance (as they do, for instance, in Lawrence Friedman's recent synthetic history of law in twentieth-century America). Readers will come away understanding that canals and railroads were subjects of intense political argument during the nineteenth century. They will likely have less appreciation for how these technologies fundamentally restructured patterns of commerce and reshaped economic activity. The actual building and use of the Erie Canal, for instance, goes unmentioned during the extensive discussion of activities promoted by the state.

The authors are willing to stake somewhat broader claims regarding the influence of scientific and technical ideas upon the larger society. Both Maier, in writing about the eighteenth century, and Merritt Roe Smith, in his chapters on antebellum politics and reform, emphasize the emergence of a mechanical ideal among figures such as Franklin, Jefferson, and many of their successors in public life. That ideal slips a bit from view, however, as the authors probe the details of politics. Kevles does a better job of integrating ideology and politics in his exploration of modern environmentalism and the growing critique of technology that permeated the American scene after the early sixties. Chapters on the late nineteenth and early twentieth centuries, authored principally by Alexander Keyssar, likewise do a fine job of examining the influence of Darwinism in many realms.

Many of the book's keenest insights regarding technology itself pertain to its connections with military affairs and diplomacy. The extensive coverage of virtually

every war of any consequence includes many detailed analyses of new weaponry and other relevant technologies. This is especially true of the sections on the twentieth century, including a thorough and judicious evaluation of the origins and use of nuclear weapons and a lengthy account of subsequent changes in the systems used to deliver them. But the reader can also gain detailed knowledge of sixteenth-century navigation techniques and of changes in the design, manufacture, and use of various firearms across the generations. The insights go beyond the battlefield, moreover, and explore the ways in which foreign policy influenced the course of technical innovation in other realms. The book makes an original contribution to scholarship, for instance, in linking the rise of New England textile manufacturing to diplomatic measures associated with the War of 1812.

Most of the chapters on warfare also include a good deal of material on medicine. Elsewhere in the book, this subject often surfaces in discussions of the status of women or in special features describing the consequences of illness. Toward the end, the authors insert distinct sections on medicine, sometimes coupled with consideration of the environment. Though perhaps not as thoroughly integrated into the narrative as one would like, the topic of health is treated in far more depth here than in most other texts.

Another subject of major importance, technology and labor, receives spottier attention. An excellent chapter on antebellum work sites offers rich descriptions of labor processes in several settings. Earlier chapters explore in detail the processes of rice and tobacco cultivation and the use of sextants. Portraits like these appear sparingly in the second volume. We get little sense of how office work, for instance, has changed during the past century and a half under successive waves of technological change. Even factory work is paid scant heed. A perfunctory chapter on industry during the closing decades of the nineteenth century paints its development in broad strokes. It speaks of wholesale restructuring of work with electric motors, a technology that hardly existed in the nineteenth century and did not have a truly significant impact until the 1920s. Chapters on the post-World War II period neglect the workforce almost entirely. Not until a chapter on the late 1970s do we find hard data about the spectacular economic growth of the immediate postwar decades.

These observations about labor reflect a more general feature of the work as a whole. At virtually every turn, this book deemphasizes economic forces and downplays the importance of developments in the private sector, including changes in business organization. There are exceptions. The chapters on the Founders, for instance, conclude with an analysis of corporate charters as a distinctive feature of American governance. Even here, however, the emphasis is upon the corporate form as a means for legislatures to monitor private activity, rather than on its use to privatize activities that in other countries were generally subject to much greater involvement by the state. One gets little sense here or, elsewhere in these volumes, that Americans have, for better or worse, consistently left many more matters in private hands, where they have been subject to broad forces operating through the market.

Nowhere is this tendency to neglect private activity more pronounced than in the text's treatment of science and technology. The tight focus on the executive branch casts bright light upon government armories, military engineers, tariffs for infant industries, state-sponsored exploration, funding for government laboratories, and, of course, the mounting importance of defense-related research. We learn far less about the private counterparts—workshops, manufactories, start-ups, giant transport and power companies with their vast forces of engineers, corporate laboratories—that funneled enormous resources and energy into technological innovation directed primarily toward consumers. Important subjects, such as the dramatic rise in patenting activity during the late nineteenth century, the growing prominence of industrial design between the world wars, and the flowering of electronic consumer goods following World War II, are covered in less depth here than in many conventional texts. Critical insights from macroeconomics likewise are underplayed. We have little sense, for instance, of how resource endowments fundamentally influenced the course of technical innovation during the nineteenth century (or why they mattered so little in the twentieth). Nor do the authors deal adequately with the critically important matter of productivity changes and the reallocation of labor and household resources in the wake of technical shifts. On the rare occasions when such matters do come into view, the tone is often more than a little dark, as in the portrayal of “married middle-class women isolated in their suburban homes” during the nineteen twenties, “exhausted by the amount of hard work a ‘consumerist’

woman had to do and wondering why they didn't feel like smiling while pushing their vacuum cleaner like the women in the ads" (p. 746).

Business is in the forefront of the book's extended section on the late nineteenth and early twentieth centuries. Here the text deviates from the state-centered chronological approach to assume a more topical organization, followed by synthetic chapters on Progressivism, World War I and the Twenties, and the Great Depression. Though this section contains fascinating, creative treatments of subjects ranging from city life to the politics of insurgency, the portrait of business and the political economy in which it operated is very flat. "Big Business" makes an early appearance and returns from time to time, generally playing a role Gabriel Kolko might have scripted, shaping legislation and foreign policy to its convenience. Much of this has a superficial, half-hearted feel about it. Business appears undifferentiated and unchanging. Crucial transitions, such as the great merger movement, are not mentioned. The West and the South are mere colonial appendages. The book exhibits little grasp of how engineering management and a set of public-minded administrators came into the limelight, or of how corporations recast themselves in a society where people increasingly saw themselves as consumers. As a result, a stated promise to demonstrate the primacy of science and technology to the Progressive Era goes unfulfilled. The section on the New Deal suffers from much the same lacunae. It makes no mention of a Brain Trust, a power fight, or antitrust actions, and passes lightly over the restructuring of commercial credit. From the New Deal we plunge deeply into the militarism of World War II and the cold war, losing virtually all sight of the private economy and the spectacular pace of nonmilitary innovation during the corporate era of the immediate postwar decades.

In underscoring these deficiencies, my point is not to chide the authors for insufficiently celebrating the feats of private enterprise. They have done well to avoid a "great man" treatment of science, technology, and business and to steer clear of a crude determinism in which individual exploits in these realms appear to reshape society. Yet if we want our students to grasp the significance of science and technology in the American past and to contemplate its implications for the future, we will need to accept that many of the most important elements of the story have occurred within the

framework of private enterprise and personal consumption. The state has its place. But that place is far more circumscribed than this text suggests.

All textbook authors face daunting challenges in trying to strike appropriate balances in tone, coverage, and intellectual sophistication. The task is not made any easier by the attempt to write a text with a distinctive emphasis. Quite the contrary. While there may be quibbles with the balances struck here, all will be impressed by the seriousness with which these authors approached their endeavor and by the depth of learning that informs this finely written and richly illustrated text.

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