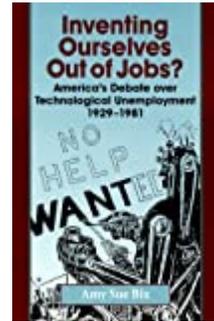**Amy Sue Bix.** *Inventing Ourselves Out of Jobs?: America's Debate over Technological Unemployment, 1929-1981.* Studies in Industry and Society. Baltimore and London: Johns Hopkins University Press, 2000. x + 376 pp. $45.00 (cloth), ISBN 978-0-8018-6244-1.

Reviewed by Robert Zieger (Department of History, University of Florida)

Men (and Women) at Work?

Inventing Ourselves Out of Jobs? is an able and lucidly written account of the ongoing debate in the United States over the effects of technology on employment. Drawing on a wide range of published materials as well as on corporate, labor, and governmental archives, Amy Sue Bix traces in rich detail the views of three generations of policy makers, labor leaders, engineers, and business executives to come about the relationship between expanding productivity and the availability of jobs. A notable feature of the debate has been the absence of a definitive empirical method for weighing the impact of technology on employment. Thus, over the seventy years covered in the book (which deals with developments over the past twenty years as well as with the period indicated in the title), celebrants and critics of workplace technology have tended to make the same arguments, often with the same rhetorical embellishments. According to corporate leaders, engineers, and other partisans of labor-saving technology, expanding production inevitably lowers prices, increases consumption, and boosts employment. Labor leaders, social critics, and troubled politi-

cians, on the other hand, have focused technology's role in work force reduction and have argued that promises of long-term growth in job opportunities have proved unduly optimistic or even illusory.

In Bix's telling, however, virtually no one called for an end to technological advance. Laborites, for example, have accepted and even celebrated technology-facilitated productivity gains, arguing only that workers should share in them through shorter hours, higher wages, and greater voice in the actual implementation of new workplace regimes. Three generations of labor leaders, from William Green and John L. Lewis in the 1930s through Walter Reuther in the 1950s and John Sweeney currently have repudiated Ludism, confining their critique of job-related technology to advocacy of worker-friendly regulation, job training, and the passing on of productivity savings to workers and consumers. Critical of the blithe optimism of corporate spokesmen and their scientific and engineering allies that productivity gains lead inexorably to expanded (and enriched) employment opportunities, even those most troubled by job loss have accepted the inevitably of continuous workplace transformation.

Employers have dismissed concerns about job loss, although often in a defensive idiom. Equating technological advance with progress, and, in turn, a commitment to progress with national identity, corporate leaders and their scientific allies have painted a bright new world of abundance and ease. Rejecting calls for public intervention in the development and application of labor-saving devices, business leaders such as Henry Ford and machine-tool innovator John Diebold acknowledged that inevitably some workers would be displaced and might suffer local and temporary hardships. But the advantages of expanded production and its concomitant proliferation of consumer goods far outweighed these minor side effects. Popular writers and editorial cartoonists might depict soulless robots and inexorable machines spitting out superfluous unemployed workers as well as appliances and amenities, but resistance to the machine was in fact ignorant, self-defeating, and even unpatriotic. "Workplace mechanization," writes Bix in summary of industrialists' views, "represented the inevitable, the only possible way to attain national success." (166-67). She quotes economist Benjamin Anderson: "on no account," declared this banking analyst of the 1930s, "must we retard or interfere with the most rapid utilization of new inventions." (166)

The debate over technology and unemployment has waxed and waned since the onset of the Great Depression. It raged most fiercely during the 1930s, when joblessness rose to catastrophic proportions. During World War II, full employment and military needs dampened it. It re-emerged, now stimulated by early computerization and other forms of electronic replication, during the prosperous era of the 1950s and early 1960s, with labor leaders such as Walter Reuther calling attention to the problem of lingering unemployment amidst otherwise bright economic prospects. Congressional hearings in 1955 on what was now called "automation" demonstrated that even during good times, the specter of worker redundancy walked hand-in-hand with the promise of a brave new consumerist world. By the late 1970s and into the 1980s, of course, the computer revolution raised these issues in a new idiom, although corporate downsizing, globalization, and widening income disparities have tended to merge discrete apprehensions about technology's adverse effects with broader concerns about job security and living standards.

Bix touches on a wide range of industries and employment situations in surveying the technology-vs.-unemployment theme. Drawing on TNEC and WPA studies, she examines the experiences of telephone operators, musicians, steel workers, coal miners, and railwaymen buffeted by the demands of new technologies in the 1930s. In the 1950s and 1960s, it was the turn of packinghouse workers, longshoremen, clerical workers, and electrical workers. Unions attempted various strategies in an effort to cope with mechanical displacement. In the 1930s, the musicians union, faced with the substitution of recorded music for live orchestras in movie houses, launched a massive public relations campaign, hoping futilely to stimulate an outraged public to demand live music. In the 1950s, the West Coast Longshoremen's Union followed an opposite course, capitulating to what its leaders regarded as the inevitable inroads of containerization while securing for its existing membership generous severance and manning reduction payments.

Bix's account of the protracted and continuing debate over technology and work is enlivened by frequent references to popular literature and films. In addition, drawings and cartoons, some hailing the brave new future of a worker-less future, others depicting with grim foreboding the social chaos sure to afflict hapless displaced workers, give the debate vivid expression. *Inventing Ourselves Out of Jobs?* also brings to attention governmental efforts in the 1930s, primarily through studies conducted by the Works Progress Administration and testimony offered at the Temporary National Economic Committee congressional hearings, to establish an empirical basis for weighing the impact of industrial technology on employment. The latter chapters ably survey a wide range of opinion drawn from more contemporary sources, attesting to the continuing pertinence of concern about the relationship between employment and technology.

Inventing Ourselves Out of Jobs touches on but explores only briefly a number of key themes that the general subject would seem to entail. The book is more of a history of discourse about employment and technology than it is a social history of the subject. Thus, themes of gender and, especially, race receive only brief explicit exposition, for example. The social context in which employers and engineers devise and implement labor-saving devices likewise is only glancingly dealt with. Thus, for example, some observers have argued that rapid mechanization of labor- intensive departments in metal working, paper making, and meat packing after World War II represented less a technological imperative than an effort on the part of employers to curtail African American employment in operations that had proven unusually susceptible to worker militancy and trade union pressure. This is not an issue that captures Bix's attention, however.

Likewise, Bix invokes but never quite explores in detail the implications of the consumerist justifications to which employers increasingly turned in justifying their resort to labor-saving measures. In 1951, Fortune magazine published a special edition titled "USA-The Permanent Revolution," boldly proclaiming that mass affluence and its attendant consumerism constituted the real revolution of the 20th century. In the 1960s, social critics such as Herbert Marcuse, Charles Reich, Paul Goodman, E. F. Schumacher, and Christopher Lasch-none of whom receives mention in *Inventing Ourselves Out of Jobs?*-expressed the reverse of this kind of celebration of material plenty, which in corporate America's view depended on continuous technological innovation. In a sense, competing visions of America centering on consumerism (and, thus, technology) are the modern echo of the 18th century debate between adherents of the civic republic and partisans of a commercial republic.

Implicit also, but underdeveloped in the book, is the question as to whether work can remain an adequate vehicle for the social identities that before the Great Depression it conveyed. Many of the jobs that Americans hold today are far removed from productive enterprise, at least as it has traditionally been understood. Technological advance and productivity gains have made it possible for televangelists, day traders, and historians to flourish. Why these particular occupations should attain public certification while other kinds of non-productive employment languish or are suppressed is a question of culture and politics, not one of technology per se.

Bix suggests rather than asserts her own sympathies. Her prose comes alive when she exposes the fatuities and excesses of technology celebrants while taking on a more troubled and somber tone when exploring the plight of the displaced and dissident. Her dismay with those who equate America's purposes and promises with technological progress and consumerist indulgence is evident, although never strident. She seems reluctant to concede that ordinary people might have benefitted from technological innovation and at times flirts with nostalgia for the good old days of man-killing coal mines and lethal railroad work. Even so, *Inventing Ourselves Out of Jobs?* is a useful survey of the ongoing debate over the relationships between technology and work in the modern United States.

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