"Reds," the family mortgage, car payments, and young people. They endured McCarthyism, with perhaps only Manchester's Good Liberal (which he perceives the reader to be) outraged by its excesses. Fighting with the troops in Korea, going to college after the war was over, and joining the corporation after that, reminds the reader that, like Manchester, he was part of it all. Crushed by the deaths of the Kennedys and Martin Luther King, the Good Liberal is challenged by "the students," whose opposition to the Vietnam war he shared, but whose rhetoric he found appalling, even frightening. And finally, after the abdication of the disbelieving Lyndon Johnson, there was Nixon and Watergate. But, at least, the killing of Americans in Vietnam had ended; however, since to Manchester the glory and the dream left us forty years ago, only the little children in the old pictures were still smiling.

In a work so expansive, slips are bound to appear, and do so here. This reviewer did not find Manchester's narrative very much informed by recent Cold War scholarship; and while Speaker Sam Rayburn was no raging liberal in his declining years, he was hardly a conscious ally of the so-called Republican-Southern Democratic coalition; and Muhammed Ali did not first capture the heavyweight title by knocking out Sonny Liston in the first round.

The quality of Manchester's work far outweighs the occasional error, and the resource notes on each chapter could keep a student busy for years. While there is less analysis than one might want in two large volumes, the writing is graceful, and the pages are crammed with useful information describing the American people of the past four decades.

Department of History
California State College
California, Pennsylvania


Coal Age Empire is the latest in a growing number of studies, including those of Peter Temin and Alfred D. Chandler, which seek to explain early nineteenth-century American economic change and growth through reference to fuel resources and utilization. As techno-
logical history, it adds considerably to our knowledge of when, where, and why bituminous and anthracite coal were used for home heating and cooking, gas lighting, in industrial steam engines and iron furnaces, and as power sources for steam vessels and locomotives. Although the author employs no clear model of technological change, several themes emerge from the narrative. 1) The market could be irrational. Consumers rejected anthracite for home heating, for example, because of "ignorance and suspicion of this useful fuel . . . ." (10). Prejudice presumably delayed gas lighting from coal as well as the development of anthracite as an industrial fuel. 2) In order to cope with the health problems posed by the new fossil fuels, prominent citizens participated in the development of myths, emphasizing the medicinal effect of Pittsburgh's bituminous atmosphere and the prophylactic quality of the fumes from Philadelphia's new gas works. The arguments resemble the "rain follows the plow" myth developed by plains settlers a half century later. 3) The major proponents of technological change were fuel producers, rather than consumers, and profitable companies rather than marginal ones. Anthracite firms led the way in encouraging the use of their product in the engines of river and ocean steamships; they participated, with the state of Pennsylvania and the Franklin Institute, in the campaigns to introduce anthracite into iron furnaces; and the Delaware and Hudson Coal Company conducted the first American experiment with a coal-fed steam locomotive. When railroads took over fuel experimentation, the major roads — the Reading, the Baltimore and Ohio, and the Pennsylvania, were the big spenders, while the New England lines postponed similar expenditures until the 1850s when the risks had been considerably reduced. This evidence supports Joseph Schumpeter's view that invention and innovation require reasonable insulation from risk. 4) Supply rather than demand factors are critical to innovation. In almost every case, utilization of Pennsylvania coals depended upon new technology. Anthracite, in particular, was a problem fuel, hot burning, with a low flame. Its utilization required new grates, furnaces, stoves, fireboxes, boilers, and flues. Supply factors — especially quality improvements in coke due to the opening of the Connellsville region in the 1850s — also explain the ongoing replacement of charcoal by coke in Pennsylvania iron furnaces. Here and in a number of other areas Binder's conclusions correspond with those of Temin and Chandler. Unfortunately, the research for the book, thorough in almost every way, was apparently conducted some time ago, for no reference is made to recent studies.
As economic history the book is of limited value, for it is premised on a series of questionable assumptions: technological advance was the "taproot of the industrial revolution" (51); the steam engine was the "giant of progress" (41); coal, the source of cheap energy, lay at the heart of nineteenth-century economic change. These assumptions may not be incorrect, but they are sufficiently controversial to require evidence. Yet Binder makes no overall attempt to arrive at some reasonable estimate of the relative importance of steam and water power, or of coal and wood as energy sources. In recent years, Paul Gates (Agricultural History [January 1972]) and Donald Worster (American Studies Newsletter [March 1975]) have emphasized the importance of wood as an economic factor in the ante bellum United States. According to Binder's own estimates, in at least two areas — steamships and locomotives — the dominant fuel in 1860 was wood, not coal.

Perhaps the author's confidence in his assumptions about the dominance of coal stems from his desire to give the book thematic unity based on the concept of "empire." What Binder calls "economic sectionalism" (it is interesting that we have no word that applies specifically to states) clearly existed; Pennsylvania's private citizens and public officials looked to coal as a source of wealth and future greatness for the state. Binder too easily accepts this state-centered view of economic development, equating Pennsylvania coal production with economic growth and with progress in general. If, however, the book has a certain abrasive quality for historians interested in the larger question of growth, as a descriptive and analytical account of coal utilization it is absorbing and highly informative.

William Graebner

Department of History
State University College
Fredonia, New York


Generations of Americans have boasted that they were a providentially endowed people destined to transform a lush wilderness into great wealth. In the beginning hearty pilgrims endured bitter winters