extraordinary complexity and difficulty of creating an aeronautical system, in contrast to pieces of technology.

There are success stories here: Lycoming, Piper, Allegheny Airlines (now USAir), airport development, air safety and traffic control. But there are many, many failures in this book of encyclopedic detail. Trimble’s litany of erroneous ideas, failed schemes, and bankrupt entrepreneurs powerfully argues that technological change is anything but the orderly, predictable, manageable process both its critics and its advocates would have us believe.

Indeed Trimble’s geographic focus leads away from what Herbert Butterfield called the “Whig tradition” that dominates so much historical writing on any topic: Trimble includes more than just the “climb to greatness” of contemporary successes; he also enumerates the false starts and misbegotten enterprises. This approach offers a way of reconciling the statistical evidence which cites a vast number of business failures, especially among small, service-oriented, or new technology firms, and our cultural celebration of success embodied in the Whig tradition’s television world of noble heroes and foul villains, who, of course, die. Clearly technological progress demands not just economic commitment, but also great and determined, even fanatical, personal commitment as well — none of which comes with any guarantee of success.

Perhaps this fanaticism is the one unresolved puzzle left by High Frontier. From the early balloonists to the proponents of heavier-than-air flight to the legislators and enthusiasts who pushed airmail subsidies to the men who were determined to make the autogyro and helicopter work, there was awesome belief in aeronautics. All that is clear is that for some technology can be as compelling as religious faith or political ideology.

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Among the historians of ethnic and working class America, none has championed the use of oral history more vigorously than John
Bodnar. Not only did Professor Bodnar direct the Pennsylvania Historical and Museum Commission's massive oral history project during the years 1974-1981, but Bodnar's Steelton, Pennsylvania, study and his most recent collaborative work with Michael Weber and Roger Simon, Lives of Their Own: Blacks, Italians, and Poles in Pittsburgh, 1900-1960 (Urbana, 1982), represent effective use of oral data. In many respects, then, Bodnar's present book, Workers' World, constitutes an apologia, a major defense of the author's claim for both the legitimacy of oral history and the superiority of historical interpretations derived from oral sources.

In the vein of apologia, Bodnar introduces Workers' World by arguing the merits of oral history as a nonabstruse genre of social history which avoids the obscurantism of theoretical social science and illuminates the "culture-bearing individual." As evidence for the defense, the author presents the pure — if slightly edited — data itself. Much of the text of the book, therefore, consists of the edited transcripts of interviews with Polish, Slovak, Italian, German, Scotch-Irish, and Croatian male and female workers, who toiled principally in Pennsylvania mills and mines during the first half of the twentieth century. Bodnar concludes his book with an excellent essay emphasizing the salience of kinship networks and family priorities in the life and labor history of migrant and immigrant American workers.

Bodnar challenges the arguments of labor historians such as David Montgomery which stress that structural changes in production, bureaucratization, and/or New Deal welfare programs shaped the modern American labor movement. Clearly, asserts Bodnar, "for most workers and their families the labor discontent in the 1930s represented an affirmation of a pragmatic world view that included the valuation of job security and a steady wage as the means to family stability" (p. 185). In other words, the arduous struggle to meet basic family needs forced workers to be realists rather than social idealists. Likewise, economic pressures compelled workers to be highly mobile in search of work, and to stress job security over career advancement.

Not that Bodnar disregards the structural changes transforming American industrialism and society in the late nineteenth and early twentieth centuries. Those changes realigned the occupational hierarchy from a vertical to a horizontal plane, thereby creating an over-abundance of entry-level jobs for unskilled immigrant and migrant labor and engendering what Bodnar describes as the "clustering" or "enclaving" of ethnic and racial groups by occupation (a pattern which Alan Burstein espied among Irish and German workers in Phila-
It is Bodnar's intention to use oral history to document his assertions regarding the salience of kinship ties, the "clustering" of ethnic workers into occupational groups, and the nexus entwining kinship and labor goals. Having carefully read the oral testimony — using the last chapter as a trail map through the data — it is fair to say that the oral sources seemingly confirm the author's major arguments. For example, in 1936, at the age of sixteen, Virginia Pural sacrificed her own desire for an education to care for her sick father. Rose Popovich cooked and laundered for a host of boarders, while George Treski "went underground" at age sixteen and until he was age twenty-eight dutifully gave his wages to his mother; all three sacrificed self on the altar of family and family stability.

In Bodnar's second section on "enclaves," unskilled workers in search of work recall roaming from Pennsylvania to Maryland to North Carolina to Massachusetts and back to Pennsylvania. So often, as in the case of Joe Sudol from Glen Lyon, Pennsylvania, the search for work usually brought the transient worker back home to the very mill or mine enclave from which he had launched his itinerary. Bodnar sounds this theme of kin and family stability again in his final section on "Organizing in the 1930s." Pittsburgher Orville Rice bemoaned the plight of his fellow steelworkers, recalling that they were barely making ends meet during the Great Depression. "You were just making enough," observed Rice, "to keep body and soul speaking to each other" (p. 151). However, like so many others interviewed, Orville Rice rejected Socialism and Communism; after all, said Rice, "I'm a Catholic" (p. 152).

Unquestionably the oral data in most cases speak eloquently to Bodnar's points. True, it is hard to draw straight line correlations, as Bodnar does, between the work experience of black mill porters and Polish, Italian, or Slovak-American mill and mine workers. As Carol Stack, Herbert Gutman, and Elizabeth Pleck have observed, the black kinship networks, while also functioning as survival mechanisms, operated differently because of unique racial constraints. Here, at least, the author may have stretched the usefulness of the data. Moreover, the nature of oral data forces the historian to be selective in developing themes. Often annoying contradictions (that is, the New Deal saved us; the New Deal was politicized; little mention of the WPA) remain unreconciled. Bodnar also seemingly ignores the health and safety theme which lunges from the pages of testimony. While industrial
accidents and poor health may have strengthened the safety net function of the family, the prominence of the issue rated note. Despite the occasional contradiction, some stretched data here and there, and a forgivable omission, read as an apologia for oral history *Workers' World* is a useful, and as always with John Bodnar, a well-written book. Definitely read the last chapter first.

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J. Howard Pew (1882-1971), longtime president of Sun Oil Company, was once characterized as “not only talking like, but looking like, an affidavit” (p. 8). A man who shaved with a straight razor, J. Howard is remembered by his daughter to have had a razor “for each day in the week,” and to have “kept them neatly aligned in a leather case” (p. 9). Together with his brother, J. Newton, J. Howard would run Sun Oil with a singleminded entrepreneurial zeal befitting so punctilious a man. From its beginnings at the turn of the century, Sun Oil would emerge as a major domestic producer of lubricants and gasoline, an upstart among giants, and by the end of World War II would be one of the few large American corporations, and the only large oil firm, still controlled by its founding family. This would soon change, as the postwar years saw the Pews relinquish operating control to professional managers while reducing their ownership shares. Still, Pew influence was felt, most notably in the decisions to pioneer in the development of synthetic crude oil, participate in the merger movement of the 1960s, adopt the Sloan-DuPont scheme of decentralized operations and centralized financial control, and begin to diversify out of oil.

It is this story of the transition from closely-held family company to diversified and professionally managed firm that Arthur M. Johnson presents in exhaustive and revealing detail. Johnson, professor of history at the University of Maine, has written extensively on the oil industry, and the present volume is a valuable addition to the management history of big oil. Through unrestricted access to Sun Oil