insurance and the hospital industry in Western Pennsylvania.

Gordon K. Macleod, M.D.
Graduate School of Public Health
University of Pittsburgh

Refractories: The Hidden Industry
By Corrine Azen Krause

HE American brick industry has been the subject of rising interest over the past 25 years. Spurred by historic renovation projects in many urban communities across the United States, as well as the "collectibility" of bricks as antiques, the interest in American domestic brick production has resulted in the publishing of numerous articles, on subjects ranging from restoration techniques for brick facades to examinations of the chronological changes in the manufacturing processes. These works, however, have largely concentrated on the domestic brick used in the construction of houses or other structures, with little attention paid to industrial usage of brick. Corinne Azen Krause provides a major source of information on this largely neglected area of brick manufacture.

Aptly titled, Refractories: The Hidden Industry, presents a well balanced overview of United States refractories from 1860 to 1985. The growth of American industries, most notably the iron and steel, glass and ceramic manufac-
tories, in the post Civil War era created a demand for refractory brick, or "fire brick," used in the lining of furnaces, boilers and fireboxes. This is clearly shown in the examination of early refractory production in the United States prior to 1860, which was concerned with meeting the needs of small scale manufac-
tories and business, with the demand for better and larger quantities of refractory materials brought about by the industrialization of the post-1865 period. The subsequent evolution of the refractory industry, from its consolidation into larger firms in the early part of this century through the changes brought about by the decline of the steel industry and the development of new needs for refractory materials by modern manufacturers, receives equally illuminating treatment.

Of particular interest is her examination of the manufacturing processes and labor conditions which characterized the refractory industry between 1900 and 1950. Beginning in 1900 the development of mechanized manufacturing techniques, such as the machine-press, which eliminated hand molding of the bricks, coupled with improved firing processes made possible by the introduction of the tunnel kiln circa 1919, allowed for increased production with concomitant savings in labor and fuel costs. Her comparison of twentieth century refractory technology with the manufacturing techniques of the late nineteenth century serve to illustrate not only the differences in productivity but also the role of the American refractory industry as an integral part of the industrial development of the nation. Krause's description of the manufacturing process is very clearly stated and well illustrated through photographs, making the production of refractory materials and associated working conditions understandable to the layperson as well as the specialist.

The book has numerous strengths, foremost of which is the clearly defined terminology employed by the manufacturers of refractory materials. All too often works dealing with technological processes fail to explain or define the industrial terminology such that the average reader can comprehend what is being described — a situation which Krause nicely avoids. Another strength of the book lies in its format, which allows the reader to easily compare the development of the refractory industry between various regions of the country, particularly in chapters One through Four, which present the historical overview of the industry. Finally, the closing chapter of the book presents brief histories of 38 individual companies that produced refractory materials, which is an aid for further research. Overall, Krause has done an outstanding job of bringing to light a largely ignored history. Given the dearth of material on the refractory industry and its historical context, her work serves as an entry point for further research on the subject.

Bob Fryman
East Liverpool, Ohio, Ceramics Museum

Forging a Union of Steel: Philip Murray, SWOC, and the United Steelworkers
Paul F. Clark, Peter Gottlieb and Donald Kennedy, editors.

A S Ronald Filipelli notes in his introduction to this collection of essays on Philip Murray, the Steel Workers Organizing Committee, and the United Steelworkers of America, few studies exist on the CIO movement in
the steel industry. One could go further and point out that there are few studies on much of the rest of the Congress of Industrial Organizations movement. Many of the best, for example Irving Bernstein's and Walter Galenson's classic studies, emphasize the institutional development of the CIO. The object of analysis has been the union movement and its leaders and not the workers who comprised the union. Ronald Schatz's *The Electrical Workers* is a notable exception in that it combines both institutional and social analysis. Since this book's essays were originally presented for a symposium recognizing the achievements of the union and its early leader, *Forging a Union of Steel* is also institutional in emphasis. It is a solid addition to the historiography of American labor in the twentieth century.

David Brody's "The Origins of Modern Steel Unionism" emphasizes how the CIO and Murray channeled the rank-and-file strike activity of the 1933 to 1936 period into a more stable institutional framework. This was accomplished through the creation of SWOC, the capture of the company unions by SWOC, and by the powerful leadership of Murray, who ensured the top-down control of his union. Brody applies to steel the framework he has developed in earlier work: the CIO captured the rank-and-file upsurge of the early 1930s and transformed it into a tractable organization capable of collective bargaining. Melvyn Dubofsky's "Labor's Odd Couple" explores the relationship between Murray and John L. Lewis. Murray remained Lewis' loyal supporter until the early 1940s. Ronald Schatz's "Battling over Government's Role" demonstrates Murray's commitment to solidifying the ties between the CIO and the federal government. Schatz's most incisive point concerns the changing nature of labor relations after World War II. Conflict increasingly became defined not by strikes and walkouts but by lawyers for both sides wrangling over points of legal dispute. Here, Schatz supports the position stated most thoroughly by Christopher Tomlins in the *The State and the Unions*: public policy and labor law have not only defined organized labor's role since the 1930s but confined it. Whereas in the nineteenth century labor hoped to avoid state intervention, in this century labor accepted it with ambiguous motives.

Mark McColloch's "Consolidating Industrial Citizenship" focuses on the impact of union policies for workers and the structure and concerns of the work force during the World War II period. Although his findings are often more suggestive than conclusive, his essay raises many of the issues which a book-length social history of steelworkers during the formative years of the CIO should include. His major concern is intriguing: how did steelworkers participate more fully as "industrial citizens" in American society through unionization. McColloch emphasizes issues such as the relative improvement in working conditions and standard of living while remaining sensitive to regional, racial and gender variations. The book concludes with comments on the essays by SWOC and USWA officials and writers.

The book illuminates the significance of Murray, SWOC, and the USWA. Now it is time for historians of steel and the rest of labor in this century to address the meaning of the CIO in workers' lives and the impact of the changes it wrought on workers' culture. How did the CIO change workers' lives? What did the CIO mean to workers? Was CIO affiliation more important to workers than other types of associations, such as religious and fraternal ones?

In this vein, there are several projects to look for: the dissertation by Joel Sabadasz at the University of Pittsburgh on McKeosport, Clairton, and Duquesne; Curtis Miner's work for the upcoming Homestead exhibit at The Historical Society of Western Pennsylvania; and David Demarest's, Gene Levy's, and Michael Weber's ongoing research on the Turtle Creek Valley electrical and steel mill towns. All these projects should help expand our understanding of the effects of CIO affiliation.

Wilson J. Warren  
*History Department*  
*University of Pittsburgh*

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