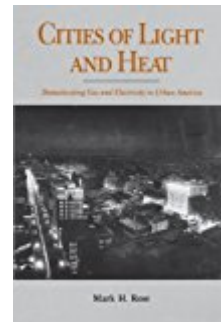


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Mark H. Rose. *Cities of Light and Heat: Domesticating Gas and Electricity in Urban America.* University Park, P.A.: Pennsylvania State University Press, 1995. xviii + 201 pp. \$34.50 (cloth), ISBN 978-0-271-01349-7.



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By relating the development of household gas and electric utilization to theories of technology and society, Mark Rose tests a long-standing debate. Simply put, does technology shape society or does society shape technology? Rose provides a careful analysis of the gas and electric business to show that a complex interplay of social, political, and economic contexts shapes technological development.

Rose focuses his study on the urban spaces of Denver and Kansas City through the year 1940. After 1940, he generalizes on a nationwide basis although he presents much more material relating to the earlier period in the two cities. Rose's involvement with this topic began in the mid-1970s, when he, in collaboration with John G. Clark, initiated research on the topic of energy choices in these cities while teaching at the University of Kansas. He noted the many differences between Denver and Kansas City, but the author was struck by the triumph of "urban politics, middle-class tastes, and the social-spatial composition" in both. (p. 11) In some respects, the similarities between these cities may limit our ability to extend their specific experiences to those of east and west coast locations; Rose's observations are particularly cogent for the midwestern experience.

Certainly, in these cities as well as others in the U.S., early gas and electric firms promoted their services

through a variety of methods in order to develop a customer base. It gradually became clear that electricity and gas were simply cleaner and easier to use than other domestic fuels such as coal. But what exactly was the larger social process through which the gas and electric business developed? This is the question Rose seeks to answer.

Rose tells us that "agents of diffusion" were responsible for distributing both the ideas about the new technology and the appliances themselves. These agents included teachers, architects, homebuilders, and salesmen. The most important of these were salesmen who worked for the utility entrepreneur, Henry L. Doherty. Doherty rose to prominence in his industry as an innovator in devising rates and promotional activities. His three part flexible rate structure encouraged gas consumption while his well-trained, clean, polite, and prompt salesmen sought to represent those same qualities in the electric or gas service they were selling. Rose's account of the Doherty System is interesting and important for it brings forth the sales techniques of an early industry which offers new material for inquiry.

Doherty, later the head of Cities Service Company, was in many ways like Samuel Insull; both men controlled vast public utility holding company empires. Insull is more well known -in part because of the work of

Harold Platt and Forrest McDonald - and also because of the infamous collapse of his empire. But Insull operated in Chicago, and Doherty was strong in the central United States including Kansas City and Denver. Thus, Rose has provided a valuable contribution by examining a part of the career of another public utility captain who controlled the gas and electric business in a large part of the United States.

Rose examines other less prominent though effective agents of diffusion including J. C. Nichols and Roy G. Munroe. Munroe never advanced beyond a mid-level salesman, albeit a successful one, while Nichols became a prominent developer. Both promoted gas and electric technologies from different perspectives but to the same end. Other players in the scheme included teachers. In vocational schools, students studied the gas and/or electric facilities used to light and heat their own buildings. Many of these students would later find employment with the local utility firm. Public schools served indirectly as models for the ideal of gas and electric technology. Codes required a high level of illumination and ventilation in classrooms in order to provide a healthful and supportive learning environment for teachers and students.

In the home, appliances relieved the drudgery and heavier labor involved in domestic housekeeping, though they often created new chores, while other new technologies provided benefits to men in their work places. Ideally, irons, refrigerators, stoves, air conditioners, and heaters provided people with the ability to begin to regulate their own built environments. Rose shows how these appliances, which tended to benefit women and housekeepers, were marketed to increase the more feminine qualities of "comfort, convenience, and cleanliness" of the home. (p. xv)

The very brief analysis of the post-1940 era is not as convincing as that of the earlier one. It is essentially a cursory review of the continuing growth and promotion of gas and electric power utilization through the mid-1980s. The complex regulatory, marketing, and technological developments of the last fifty years, though, would provide fertile ground for an in-depth analysis of the social history of the light and power business during that period.

This work does elevate the scholarship of the U.S. gas and electric business. In this regard, Rose jousts with Alfred D. Chandler's statement in *The Visible Hand* that

electric, gas, and trolley systems of the 1920s "remained smaller and less complex than the older railroad systems." (p. 204) Certainly, the hundreds of thousands of diverse customers dealt with on a regular basis by gas and electric employees, varying rate schedules, and a multi-level public policy suggests a higher level of complexity in those newer urban technologies than Chandler suggests.

There are integral parts of this story that deserve additional attention. The author effectively shows how coal stoves, for example, were displaced by cleaner and more easily maintained gas stoves. While Rose does distinguish between natural gas and manufactured coal gas, he might have delved further into the transition from manufactured gas to natural gas; the natural variety was significantly cleaner and more hygienic than the coal and oil based variety. How did gas companies promote this intra-industry fuel shift to their customers? In addition, did utilities market gas and electric service directly to other groups besides upper-income white families.

The author accurately describes Henry L. Doherty as a master of promotion, public relations, sales techniques, and rate structures. But Doherty may not have consciously sought to adapt the gas industry to the urban environment as much as he simply desired to find the best way to gain control over the markets which he claimed. Although this book is not about the process of bringing fuel to the cities (as opposed to how it is used in the city), Doherty was a ruthless competitor who sought to destroy and/or acquire those who tried to supply fuel to the markets he called his own. Thus, Doherty's insight into marketing was probably influenced less by a desire to adapt his business to the consumer than a drive to show the consumer how to benefit from his product. Although the book tends to downplay the capitalistic tendencies of men like Doherty, it does describe well the social outcome of their work.

This book cuts across the disciplines of urban history, energy history, and the history of technology. It draws upon a wide variety of sources including corporate records and trade journals. The mix of biography, technical data, and descriptions of urban development make for a well composed and well written book which provides a very useful foray into the technological evolution of the twentieth-century home. Rose has succeeded in showing how social, political, and economic forces shaped the gas and electric business in Kansas City and Denver, and how these forces worked to domesticate energy nationwide.

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