



Joel A. Tarr. *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective*. Ohio: University of Akron Press, 1996. xlvii + 419 pp.

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## Dealing with Urban and Industrial Waste

As America industrialized, and as population density created pressure on the environment, Americans looked for ways to clean air, water, and land, and to find a place to put urban and industrial wastes that would not further damage the environment—thus the “search for the ultimate sink.” For many years, Joel Tarr of Carnegie Mellon University has researched and written about the problems and solutions concerning the relocation of wastes in urban American history. His essays and articles—both new and previously published—were recently compiled by the University of Akron Press in *The Search For the Ultimate Skin: Urban Pollution in Historical Perspective*. The essays are divided among five sections: “Crossing Environmental Boundaries,” “Water Pollution,” “Land, Transport, and Environment,” and “Industrial Wastes as Hazards,” each with an introduction, several articles, and photographs.

To put it simply, there are few places that pollution can go: into the air, water, or land. Historically, the pollution “sink” was merely shifted from one place to another to solve a particular problem but, as Tarr points out, the shift often caused other problems. Waste that was once put into the land was dumped into water bodies. Pollutants that were once pumped into the air are now put into the land. Industrial wastes that were once dumped into waterways are now injected into the land. With each change of the “sink,” a new population was affected by pollution. Urban populations had to deal with the waste dumped upstream; rural populations had to deal with the influx of urban waste. In many cases, the dumped waste was not immediately recognized as a problem, but improvements in technology demonstrated the particular disposal method caused problems. The forces behind the changes in waste disposal varied, but included the public, public servants, and changing tech-

nology.

For decades, water pollution has caused serious concern about the health of both the environment and the general public. Although there were changes on local and state levels over the years, it was not until 1972, with the passage of the federal Clean Water Act, that national standards for water quality were set. In four essays, Tarr discusses water, its quality, and how the changing technology influenced major shifts in the use of the water “sink.” Water-carriage technology seemingly solved the problem of human waste disposal in urban areas, but in many cases sewers only carried waste out of the immediate locale, dumping it into rivers or streams that carried it downstream to cause problems for another community. The “sink” shifted again when some communities began pumping sewage sludge onto the land.

Air pollution affected American cities and their outlying areas for decades, killing vegetation, dirtying the environment, and causing health problems. Although air pollution caused serious problems, it represented a vigorous industrial economy to many, so it took a shift in public attitude before changes could be made. As Tarr points out, it took public and private leadership to muster the public support needed to affect change in Pittsburgh.

Transportation created various pollution problems. Horses in cities produced tons of manure. Changes in technology, such as the development of streetcars, eliminated the manure problem and allowed people to migrate to the suburbs, but the use of automobiles to commute has created a new set of problems. Writers, reformers, and even ministers had believed that the development of the streetcar and other urban transportation systems would reduce the problems caused by the high population density, but the flight from the city prevented the

poor from moving.

The manufacture of charcoal for use by the iron and steel industry depleted forest resources and created heavy air pollution during the early nineteenth century. Anthracite coal, which produced less smoke, gradually replaced charcoal, but was itself replaced by bituminous coal and coke. Although coke burned relatively cleanly, the transformation of bituminous coal into coke created new problems. Hydrocarbons, fumes, and ash ruined vegetation in the surrounding area. Other coke by-products were dumped into waterways, causing more problems. By the twentieth century, new technology allowed the capture of by-products from the coke making process, but not to solve pollution problems. Rather, the captured by-products had commercial value and could be sold to increase profits. Although the new by-product ovens improved air quality, they still produced waste, much of which was discharged into bodies of water creating new problems. Tarr repeatedly points out how the solutions to pollution problems caused difficulties, many unanticipated, for another population of people or another part of nature.

Tarr delves deeper into the questions of environmental degradation and reform, looking at the motivation of the environmental reformers. Some sought reform because of financial considerations, others wanted to restore nature for nature's sake, and still others sought en-

vironmental reform because they thought it would lead to an improved social order. Attitudes toward hazardous wastes, for example, have shifted overtime to include concern not just for health issues, but for the land itself. Concern for human wastes often superseded any concern for industrial wastes until Improvements in technology and public education helped people understand the seriousness of the industrial wastes.

Although they were originally written as stand-alone essays, they are interrelated and convey common-sometimes overlapping-themes. Geographically, Tarr's essays are centered in the northeastern quadrant of the country, but that does not make them less relevant to environmental historians elsewhere. An occasional map detailing the area under discussion would have been helpful, for example, in the essay on "Land Use and Environmental Change in the Hudson-Raritan Estuary Region, 1700-1980." One essay needed a better introduction for those unfamiliar with the "Pittsburgh Survey." Tarr's essays cover a variety of complex topics and are an important source for environmental historians and historians of science and technology.

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