

Inventing Pollution: Coal, Smoke, and Culture in Britain since 1800. By Peter Thorsheim. Athens: Ohio University Press, 2006. xii + 307 pp. Illustrations, figures, bibliography, notes, index. Cloth, \$55.00; paper, \$26.95. ISBN: cloth, 0-821-41680-4; paper, 0-821-41681-2.

Reviewed by Hugh Gorman

Peter Thorsheim starts off *Inventing Pollution* by reminding us that the British were wrestling with the problem of smoky cities long before anybody else. In London, coal had become the dominant fuel by the middle of the seventeenth century. By 1800, the British were burning approximately fifteen million tons of coal each year, a quantity that far exceeded the amounts consumed anywhere else. Over the course of the nineteenth century, as industrialization transformed British society, the consumption of coal skyrocketed. Soot, smoke, and gases spewed out of countless coal-heated homes and coal-fired boilers and belched from processing facilities, such as coal-fed manufactured gas plants. It was in grappling with concerns caused by all this smoke, Thorsheim argues, that the notion of pollution was invented.

What was the response of urban residents and national leaders to this vast outpouring of toxins? In addressing the question, Thorsheim implicitly argues that the British response to smoke-related concerns can only be understood within the larger cultural context. Knowing that some portion of the population had been complaining about coal smoke for centuries or that, in 1863, the British passed a piece of environmental regulation that appears startlingly modern in form and logic, is not enough. Thorsheim also emphasizes the importance of knowing that many urban residents preferred to burn bituminous coal because it gave off a cozy flame. In addition, he explains that some people believed that the urban poor experienced ill health in the nineteenth century, not because they lived in damp, sunless, and sooty slums, but because they were inferior. Nineteenth-century officials and reformers were, of course, addressing numerous concerns associated with rapid urbanization in addition to those caused by

smoke, and Thorsheim deftly describes how various reformers and politicians integrated the issue of smoke into their rhetoric.

That said, Thorsheim does not ignore the economic, scientific, and technological aspects of the story. For example, he looks at the difficulty of measuring emissions, the trade-offs associated with switching to other fuels, the clashing interests of various industrial sectors, and the displacement of the smoke that resulted from the construction of coal-fed manufactured gas plants and coal-fired electric-power-generating plants. Britain's landmark 1956 Clean Air Act and the strategies the government adopted to overcome the challenges associated with implementing the legislation are concisely covered, as is the country's shift to a new energy regime, made possible by North Sea gas.

Thorsheim weaves cultural factors into a story replete with accounts of the influence of policy, economics, science, and technology. Consider, for example, the tight connection between fog and smoke. In coal-consuming areas swept by fog, attitudes toward smoke inevitably became entangled with perceptions of fog, blurring the line between nature and culture. In the first half of the nineteenth century, perceptions of fog and smoke were further complicated by the common misperception that diseases were transmitted by poisonous vapors or by miasmas arising from decomposing matter. Fog, perceived as drifting into cities from swamps, was "miasma made visible." Thorsheim describes how many people thought thick urban fogs provided cover for nefarious activity. Smoke, on the other hand, came off as more benign. After all, it did not arise from disease-ridden swamps, and it had some positive uses, such as preventing meats from spoiling. Over time, of course, perceptions changed. Dissemination of knowledge about the germ theory of disease and improvement in public health due to better methods of sewer disposal increased awareness of the effects of smoke on health. Still, the two could not be easily separated. By the end of the nineteenth century, pea-soup "fogs" were more common than ever, and few people could say for sure what was natural and what was not. Indeed, even in the 1950s, health officials attempting to facilitate a shift to cleaner fuels had to emphasize that the choking fogs common to London were not natural.

Thorsheim's extensive use of primary sources and his integration of so much material might have turned *Inventing Pollution* into a tome. It is not. It is a well crafted and engaging book, and Thorsheim demonstrates a level of knowledge about the relevant policies, technologies, and industries that is first rate. Lots of nice details, such as the complications in implementing the 1956 Clean Air Act caused by the "concessionary" coal given to miners as part of their union contracts, add complexity without overwhelming the larger points. Anybody interested in the story of how an industrial society learned to manage its interactions with the physical environment would benefit from reading *Inventing Pollution*.

Ultimately, though, Thorsheim is not attempting to construct a tight argument based on specific changes over time. His chapters, for example, are not straightforward chronicles of distinct periods. Change over time certainly takes place, and the book moves forward chronologically from the era of invisible miasmas hovering over sewerless cities to the present, when clean, natural gas from the North Sea is piped to London homes. But what Thorsheim is trying to capture is the amorphous shift that takes place in the perception of what pollution is. In some ways, this is too ambitious a goal for a book that is only about coal smoke. On the other hand, for a book focused on coal smoke, it accomplishes this goal admirably.

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