

good, yet activists made clear that their neighborhoods were sacrifice zones for such alleged social good. Sze also points to the growth of EJ groups' use of the precautionary principle, a growing perspective that seeks to prevent hazards by seeking toxics reduction and alternative methods and substances, and to put the burden of proof for safety on those proposing to produce, transport, use, or dispose of potentially dangerous activities.

Were the EJ groups' efforts successful? Mostly so, due to political mobilization, legal action, scientific research, and regulatory input. Two projects were abandoned, one was closed, and the other resulted in improved operation and monitoring, and significant funds in a settlement, leading to much growth for the organization involved. The main case studies, as well as other campaigns that Sze mentions, were successful in another way: they generally empowered communities and activist groups, while contributing to societal-wide discussions on environmental health.

Noxious New York provides solid information on the organizing activities of the EJ groups and coalitions. Copies of fliers and posters, as well as photos of rallies, speeches, and demonstrations are abundant. She also deals with the splits and differences across groups, when a local EJ organization had an opposite position than the larger coalition. But I would have liked to see some more attention paid to the internal dynamics of those groups—for example, how did they decide to enter a coalition and what effect did that have on the group? Perhaps this is hard to do, since it puts in the public eye some concerns that should remain internal to the groups. Some of the later examples are less clearly connected than they could be to the four main case studies. It would also be interesting to hear more about the academic-community partnerships that produced much of the research used by EJ activists in their legal and political campaigns. But those flaws are small in light of a significant contribution to environmental justice research.

Disciplining Statistics: Demography and Vital Statistics in France and England, 1830–1885, by **Libby Schweber**. Durham, NC: Duke University Press, 2006. 288pp. \$23.95 paper. ISBN: 0822338149.

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In the mid-years of the 19th century, in both France and England, systematic efforts were undertaken to collect population "statistics" that could help inform policy decisions. "Second tier" statisticians led these efforts. Libby Schweber compares two attempts at "disciplining statistics": Louis Adolphe Bertillon's effort to establish "demography" in France and William Farr's attempt to establish "vital statistics" in England. Neither effort succeeded in establishing a surviving discipline, although Farr had greater success in influencing policy makers. His "vital statistics" became incorporated into the curriculum of the new public health programs used to educate British medical officers. Ultimately both Bertillon and Farr's policy-oriented disciplinary agendas foundered late in the century under attacks by more mathematically inclined statisticians such as Francis Galton.

Both efforts trace their origins to the 1820s, "an era of statistical enthusiasm," when the public was interested in "numbers about society," whether it be numbers of criminals, numbers of insane, or numbers of deaths in a cholera outbreak. In both France and England there was a general belief that collecting such statistics could lead to social progress. Both Bertillon's demography project and Farr's vital statistics project called for a similar "scientific" form of statistical reasoning that entailed constructing ratios and rates from administrative statistics that then could be used to uncover the "natural laws" of social dynamics. Both knew of each other's efforts and borrowed from each other's work. Yet in France the scientific and political elites largely rejected initial efforts to establish demography while in England Farr's vital statistics project had a much more positive reception. French officials questioned the validity of such simple statistics as a national death rate while English government agencies used Farr's "Healthy District Mortality Rate," the

death rate needed to be in the healthiest decile of all districts, to gauge the extent of possible mortality improvements. Schweber's goal is to understand why "demography" and "vital statistics" were received so differently.

With rich historical detail and a meticulously implemented comparative framework, Schweber makes a convincing case that institutional differences, especially in political institutions, can explain the different receptions. Ian Hacking and Theodore Porter had previously noted that British and French elites in the nineteenth century were more receptive to probabilistic statistical reasoning and the search for statistical "laws" than were Prussian elites. They identified the Prussian belief that "society" was largely a product of the state as the principle source of Prussian skepticism about social statistics' capacity to uncover the laws of social dynamics; in liberal France and England, where political legitimacy rested on the government's ability to improve social conditions, elites had a greater interest in uncovering those laws and had a greater attraction to statistics. Schweber adds depth to Hacking and Porter's institutional analysis by focusing on French and British differences in adopting "scientific" statistical reasoning and the notion of a "national statistical population." Using distinctions developed by Ronald Jepperson, Schweber argues that England was an anti-statist form of liberal society in which political authority was embedded in civil society while France was a statist form of liberal society in which the state was seen as the one institution that embodied the interest of all the people. French elites, with their conflict model of civil society, had a natural tendency to see the nation's population as "really" being made up of a number of distinctive subpopulations. Therefore, they questioned the reality of a homogeneous "population" of France, and thought that aggregate statistics, such as "France's death rate," were artificial constructs of very limited utility. English elites, by contrast, always thought that English society, the aggregate body of individual sovereign citizens, was "real." They had no difficulty accepting that "England's death rate" was a meaningful statistic. These differences in political beliefs and institutions, along with France's more hierarchical and centralized scientific and educational establishments, are

the main reasons Schweber gives for Bertillon facing more opposition than Farr.

Although *Disciplining Statistics* is ultimately about the process of discipline formation, Schweber's work is of interest not only to those engaged in science studies, statisticians, demographers and public health professionals will also enjoy reading this work if only for the fascinating account of how various rates and ratios first developed and how their validity initially was questioned by many. These readers might choose, however, to skim the 32-page "Introduction," which is largely dedicated to theoretically situating the work.

I have one slight criticism of Schweber's approach. Her fondness of institutional analysis leads her not to ask questions about the role that ideas and ideology might have played in the failure of these two disciplinary efforts. For example, when Achille Guillard, Bertillon's father-in-law initially promoted "demography" in the 1850s, he did so by contending that it would empirically disprove Malthusian theory and end calls for harsh Malthusian welfare policies. Did Guillard's initial theoretical and ideological positioning of "demography" play a significant role in its rejection? A similar question not asked by Schweber arises about Francis Galton's criticism of Farr's vital statistics project. Galton not only helped establish mathematical statistics, he also established the eugenics movement. Farr sought to maximize mortality decline, a goal that could be dysgenic if public health innovations did a better job of saving the lives of "lower quality" populations than of "higher quality" ones, a possibility that worried both Galton and Darwin. Might Galton's eugenic agenda have played a role in his condemnation of Farr's unsophisticated statistics?