Justice in the Air

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So important is the Harvard Six Cities Study to policymaking on air pollution that it has recently undergone an independent audit. Happily, no serious problems were revealed,¹ so this science base for current US Environmental Protection Agency limits on pollutants is intact. If only pollution, air or other, were simply a scientific issue. But, it is not; it is highly political. We can all be against poor environments, yet accept the benefits of industrial activity and rubbish disposal facilities, for example, as long as they are NIMBY (“not in my back yard”).

One US response has been the concept of “environmental justice.” Basically, this aims to give everyone, whatever their income, the same protection from any damaging effects of pollution and the same access to decision making on matters involving the environment and health. Here in the United Kingdom, there is no National Environmental Justice Advisory Council, but the problem is the same. In January 2004, an Environment Agency study² prompted the following headline in a newspaper serving the northern industrial city of Sheffield: “Poorest City Folk Hit Hardest by Pollution.” It was a fair summary, I thought, of the evidence that the most socioeconomically deprived electoral wards in England experience the highest air concentrations of fine particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, and benzene, and that there are five times as many pollution control sites in wards containing the most deprived 10% of the population than in the least-deprived 10%.

The press release² quotes the agency’s chief executive as recognizing the existence of inequalities “in proximity to these issues” while remaining agnostic in respect to effects on health. She accepts the geography, in other words, but not, yet, the epidemiology. Evidence on the latter continues to accumulate. For example, the January 2004 theme issue of the *Journal of Epidemiology and Community Health* included evidence that air pollution exposure in pregnancy interferes with fetal weight gain and further evidence that traffic-related pollution is contributing to the current rise in childhood asthma.

The UK Committee on Medical Effects of Air Pollutants in 1998 estimated the number of deaths “brought forward” by particles less than 10 μm in diameter as 8,100 for cities alone, plus another 3,500 associated with sulfur dioxide.³ The United Kingdom seems to be on course for its targets for reducing sulfur dioxide and particulates, but the December 31, 2005, one for nitrogen dioxide (annual mean 40 $\mu\text{m}/\text{m}^3$) looks unlikely to be met. Regulatory authorities and advisers such as the World Health Organization do recognize the need to take into account subgroups that are especially vulnerable, but clean and polluted air are seldom homogeneously distributed.

We may have come a long way in Europe from the infamous “great smog” (London, 1952) and the Meuse Valley disaster (Belgium, 1930),⁴ but national wealth and industrialization usually go hand in hand. The workforce, blue collar

and lower paid, that serves the factories still tends to live close by them (and the disaster in Bhopal, India, tragically illustrates the consequences of such closeness); the better-off white-collar plant managers go home to cleaner air. The United Kingdom's 19th century grand out-of-town residences and terraces of meaner back-to-back housing beneath city factory walls remind us that the division is a long-standing one. Within that division lies a complicating interaction. As Lipfert^{5(p3)} put it editorially, drawing together the many threads in the theme issue referred to above, "in addition to exacerbating exposures, poverty status may also involve increased susceptibility to environmental challenges by virtue of differences in underlying health status and access to medical care." And it gets worse, for "the poor will bear disproportionate shares of the economic burdens of any cost ineffective environmental regulations that unduly increase prices of housing, fuels, vehicles, or appliances."^{5(p3)} Good science linked to environmental justice can achieve only so much toward the goal of eliminating ill health associated with low air quality.

REFERENCES

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