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Indecent exposure: the widespread use of toxic chemicals puts people's health at risk.

Poisoned at work

How Everyday Products Make People Sick: Toxins at Home and in the Workplace
by Paul D. Blanc
University of California Press: 2007. 385 pp. $50, £32.50 (hbk); $19.95, £12.95 (pbk)

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The title of Paul Blanc's book *How Everyday Products Make People Sick* makes it sound like a consumer or self-help guide, and gives no hint of its literate and charming contents. It is focused on the history of workplace-caused illnesses and how, from the earliest times, they presaged community epidemics. Using colourful stories, Blanc offers evidence for his main points, most notably that there is no absolute division between consumers and workers. It is a wonderful read.

Blanc, a specialist in occupational and environmental medicine, treats "diseases that people get from their work or as a result of pollution". This medical specialty is distinguished from others not by the signs and symptoms it observes, for the human body has a limited number of ways of reacting to poisons and pathogens, but by the histories describing the patient's exposure: what, when, for how long, in what concentration, and by what route? Treatment includes variations on normal medical intervention, often extended to strategies for preventing further exposure.

Blanc builds his arguments around historical observations, suggesting that we should not be surprised when exposure reveals some new product or chemical to be poisonous. A hint from the past should alert us to future problems. In the first chapter, he relates some "forgotten histories of 'modern' hazards" about mercury, air and water pollution, asbestos, job burnout and the increasing frequency of carpal tunnel syndrome. Blanc never tries to be exhaustive in his exposition of a problem, but colourful instead, telling the reader about enquiring scientists and never omitting the unfortunate victims.

The workplace offers a good way to learn about toxic substances because workers in one plant or job are often distinct from everyone else in terms of their exposure to chemicals. Adverse effects first seen in industry are often seen later in homes and the environment. For example, the search to produce white cloth drove bleaching processes for centuries before chlorine bleaches caused a revolution in the textile industry globally, making chlorine ubiquitous — an engaging story the way Blanc tells it. He uses equally entertaining tales of glue, solvents and "job fever" to illustrate the important role of commerce.

Industry has driven many changes in the workplace, the home and the environment. Any ill effects of exposure to chemicals are, as a rule, detected very quickly, but society acts much more slowly to prevent or correct them. Industry introduces new processes, involving exposure to new chemicals, then routinely opposes any investment aimed solely at preventing further exposure. "In the early years of the twentieth century," writes Blanc, "medical experts shared a sense that the scourge of carbon disulfide had passed, viewing this as a public health victory that was incorrectly attributed to improved regulatory controls, when actually the reduced use of carbon disulfide in vulcanization was due to new technologies, not government action." One theme recurs: public-health regulators are always playing catch-up, be they the do-gooders of sanitary reform in England or the hamstrung US regulatory agencies of the early twenty-first century.

Near the end of the book, Blanc predicts future problems, using manganese as an example. Manganese is poisonous in the body, but as its common inorganic form is poorly absorbed by the gastrointestinal tract, damage has been limited. New organic chemicals that incorporate manganese are another story, however. Sales of two relatively new pesticides containing organic manganese, Maneb and Mancozeb, already exceed £11 million (US$21 million) annually. Blanc suggests caution and watchfulness.

Blanc brings his book up to date, noting, for example, industry-sponsored data reanalysis apparently intended to muddy the scientific picture and delay regulation. His conclusions rely heavily on the current state of public-health and regulatory affairs in the United States. A slightly broader sweep of enquiry might have also indicted Europe, Japan and developing countries, as well as the World Trade Organization and other international bodies.

In the 26 years since I directed the US National Institute for Occupational Safety and Health, I haven't seen a book that so clearly describes how the health of workers fits into the big picture, and how occupational health can also protect the public. I will recommend it to all my public-health students and to colleagues who might appreciate a way to understand the forest while they study the trees.

Blanc's emphasis on the economy triggers several questions. Might we be able to construct a dynamic picture of exposure to poisons? Using a Leontief input–output matrix model of an economy, which can predict the effect of changes in one industry on others, would it be possible to incorporate information on toxicity, number of exposures and populations exposed? As industry introduces new products, changes production processes, relocates plants, substitutes ingredients and installs protective technologies, perhaps we would be able to foresee the consequences for workers and the environment. And maybe protection will come sooner. ■

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