

book review

Toxic Bodies: Hormone Disruptors and the Legacy of DES. By Nancy Langston. New Haven: Yale University Press, 2010. xvii + 193 pp. Illustrations, notes, bibliography, and index. Cloth \$30.00.

Nancy Langston's *Toxic Bodies* makes an important contribution to environmental studies by combining a detailed analysis of the troubled history of DES (diethylstilbestrol) with a broader analysis of the past and current issues related to endocrine disruptors. Along the way, Langston presents a compelling story of the troubled relationship between government policy makers and industry advocates and, specifically, how consumer health has been compromised in the process. Langston also enriches our understanding of the ways that, long before it was enunciated as such, the precautionary principle influenced scientists and regulatory authorities, suggesting that we pay greater attention to its role in environmental history as well as in current policy decisions.

DES is just one of thousands of new synthetic chemicals that have become an essential part of the American and world marketplaces in a host of industries from plastics to pharmaceuticals to pesticides. Despite the fact that one potentially dangerous group of these new chemicals, endocrine disruptors, has now "invaded" virtually everyone's bodies, whether in the global north or the global south, it has largely escaped regulation and control in the United States and elsewhere. This examination of DES is significant because it was the "first synthetic chemical to be marketed as an estrogen and one of the first synthetic chemicals identified as an endocrine disruptor" (p. ix).

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Researchers in pre-World War II years discovered that DES caused major problems in animals, including cancer, disruption of sexual development, and decreased fertility. In 1940, the Food and Drug Administration (FDA) rejected industry efforts to get DES approved as a treatment for menopause because of these animal tests; however, the FDA relented the next year, approving DES not only for treatment of “problems” associated with menopause, but also to “help” women have bigger, stronger babies, despite the fact that DES had been contraindicated for pregnant women. After World War II, DES was used in cattle and poultry feed to fatten the animals up more quickly, and by the late 1950s, it became a persistent and widespread pollutant.

The book provides an excellent analysis of why the FDA went along with industry arguments for approving the drugs despite government scientists’ misgivings. Regulators accepted the view that artificial estrogens presented no great risk because natural estrogens were an essential part of human development. They also acceded to businesses’ contention that, because there was no human data that DES was dangerous—only animal data—the government should not prohibit its use. As one industry spokesperson put it, “Mice are not men” (p. 78). Langston documents the variety of deceptive methods that companies used to win regulatory approval, including partial reporting of doctors’ records, but she also provides a sophisticated analysis of the multiple factors that contributed to this public health disaster. These included cultural assumptions about women and an unwillingness, despite contrary scientific evidence, to question the toxicological premise that the dose makes the poison. Thus, it took decades for the government and many scientists to understand, much less accept, that endocrine disruptors may have greater effects at lower doses and that their effects are often more related to the timing of exposure—in infants and fetuses—than the dose. Building on scholarship and insights of historians, scientists, women’s studies, and cultural studies, this important book combines a fascinating account of one chemical’s effect with a cautionary tale about the hundreds of new, unregulated endocrine disruptors that are contaminating the environment with unknown effects on our bodies.

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