

BOOK REVIEW

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DYING FROM DIOXIN: A CITIZEN'S GUIDE TO RECLAIMING OUR HEALTH AND REBUILDING DEMOCRACY. By Lois Marie Gibbs¹ and the Citizens Clearinghouse for Hazardous Waste. South End Press, Boston: 1995, Pp. 361. \$20.00.

The environmental justice movement has rapidly gained momentum over the past few years.² This movement challenges the decisions, often made by corporations, "of *who* gets *what* kind of environmental quality."³ Although this movement focuses primarily on the treatment of minority and disadvantaged communities, it is part of a larger effort to reform society's valuation of human health and the environment.⁴ In *Dying from Dioxin: A Citizen's Guide to Reclaiming Our Health and Rebuilding Democracy*, Lois Marie Gibbs challenges the current system which has enabled corporations to exert their influence and power to promote their own self-interest at the expense of human lives and the environment.

In 1978 the people of Love Canal, New York found out that thousands of tons of toxic chemicals had been buried under their homes and that these toxic pollutants were poisoning them and their children.⁵ On August third of that year, the residents of Love Canal

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1. Lois Marie Gibbs was the 1996 Spring Distinguished Lecturer of the *Journal of Land Use and Environmental Law* at the Florida State University College of Law. This lecture was co-sponsored with the Legal Environmental Assistance Foundation (LEAF).

2. See Robert D. Bullard, *Conclusion: Environmentalism with Justice*, in CONFRONTING ENVIRONMENTAL RACISM, VOICES FROM THE GRASS ROOTS 195 (Robert D. Bullard ed., 1993); Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383 (1994); Richard J. Lazarus, *The Meaning and Promotion of Environmental Justice*, 5 MD. J. CONTEMP. LEGAL ISSUES 1 (1994).

3. Vicki Been, *Analyzing Evidence of Environmental Justice*, 11 J. LAND USE & ENVTL. L. 1 (1995) (emphasis in original).

4. See, e.g., Heather Fisher Lindsay, *Balancing Community Needs Against Individual Desires*, 10 J. LAND USE & ENVTL. L. 371 (1995) (presenting a radical challenge to traditional views on property and questioning the current level of significance placed on human health and the environment where profits are concerned).

5. MICHAEL H. BROWN, THE POISONING OF AMERICA BY TOXIC CHEMICALS 25-27 (1980). To be precise, 21,800 tons of toxic chemicals were buried at Love Canal. LOIS MARIE GIBBS, DYING FROM DIOXIN: A CITIZEN'S GUIDE TO RECLAIMING OUR HEALTH AND REBUILDING DEMOCRACY xvii (1995). For the history of Love Canal see *id.* at 64-67.

formed the Love Canal Homeowners Association and elected twenty-seven year old resident Lois Marie Gibbs as their president.⁶ For the past eighteen years Gibbs has played a major role in raising awareness of toxic chemicals, working to reduce their production and organizing a grass-roots campaign to empower communities to fight the reckless destruction of their neighborhoods by corporations. *Dying from Dioxin* is Gibbs' latest contribution to this effort.

The introduction explains the politics behind the poisoning of America's communities. It serves the dual purpose of outlining the historic denial, by both the government and industry, of the problems associated with dioxin and presenting a preparatory framework for those planning to organize within their own communities. The main body of the book is divided into two parts. Part One is predominantly a synopsis of the 2400-page EPA draft report on dioxin, released in September 1994.⁷ This part uses scientific principles to examine toxic pollution, offering a technical explanation of what dioxin is and why it is dangerous. Additionally, this part explains how most of society has unknowingly been exposed to dangerously high levels of dioxin. Lastly, Part One chronicles dioxin's effects on the immune and reproductive systems, its propensity to cause cancer and the other numerous health effects of exposure. Although Part One deals with some fairly complex scientific information, it is written in "plain English," so that any reader can understand.

Part Two deals primarily with empowerment and grass-roots organization. This part offers detailed advice on how to organize, build a coalition, fight industry and reclaim individual communities. Although these two parts focus on quite different subjects, they represent the steps people can take to end pollution in their communities. Accordingly, this review examines these parts in turn and discusses the over-arching theme of the book.

PART ONE: THE SCIENCE OF DIOXIN

Although many people have heard the word dioxin before, few are aware of its exact nature or the dangers associated with it. Gibbs offers a simple and straightforward explanation of dioxin:

Dioxins are a family of chemicals with related properties and toxicity. There are 75 different forms of dioxin Dioxin is not manufactured or used. Instead, it is formed unintentionally in two

6. BROWN, *supra* note 5, at 32.

7. Becka Oliver, *New Dioxin Books Make a Tough Subject Real for Non-Scientists*, PRO EARTH TIMES, Jan. 1996, at 10 (reviewing Gibbs' book and DOW BRAND DIOXIN: DOW MAKES YOU POISON GREAT THINGS (Jack Weinberg ed., 1995)).

ways: (1) as a chemical contaminant of industrial processes involving chlorine or bromine, or (2) by burning organic matter in the presence of chlorine Dioxin itself has no practical use.⁸

Although dioxins are not generally soluble in water, they do attach to particulate matter (dust) in the air and water and are soluble in fat. These properties lead dioxins to bioconcentrate or build up in the bodies of animals as well as humans. Hence, dioxins can accumulate in the cows, chickens, pigs and fish that humans eat, thereby directly transferring the poison to humans. Accordingly, a person who lives in the northern state of Maine could be poisoned by dioxins produced in Florida, via food produced in Florida that is subsequently consumed in Maine.

Dioxin is often released into the air and settles on nearby soil.⁹ Because dioxin is not soluble in water, it will not be carried into the groundwater by rain and can remain in the ground, close to the surface, for years. Although exposure to sunlight can help dissipate dioxins that are directly on the soil's surface, unexposed dioxins, which lie mere centimeters below the surface, can remain an imposing threat for generations.

Dioxin does not break down easily, and is not metabolized by bacteria. These factors combine to make dioxin very persistent in the environment. Because dioxin is passed to humans through the food chain and stays with us for a substantial period of time, it can accumulate to dangerous levels.

Dioxin, a byproduct formed during industrial processes involving chlorine or the combined burning of chlorine and organic matter, comes mostly from one of four sources. These sources are: (1) incinerators; (2) paper and pulp mills; (3) chemical manufacturing of commercial products that contain chlorine; and (4) industrial plants, such as metal smelters and cement kilns. Since chlorine is necessary for the production of dioxin, Gibbs suggests a simple strategy: "reduce the amount of chlorine and the amount of dioxin generated will be reduced."¹⁰

The book also addresses what is called "mass balancing." This process checks the numerical accuracy of dioxin reporting. The mass balancing method compares the amount of dioxin deposited on the ground from the air with the amount of known emissions from

8. Gibbs, *supra* note 5, at 35.

9. Some studies have shown that dioxin can travel as far as 300 miles from its place of production before finding a resting place. *Id.*

10. *Id.* at 51. Gibbs does note that some dioxin is produced naturally. Although Gibbs downplays this fact, a debate does exist regarding the significance of industrial dioxin production in proportion to the total amount of dioxin in the environment.

various sources. In this discussion, Gibbs notes several mass balancing calculations done in Europe and the United States. The result of these calculations indicates that the amount of dioxin deposited in the environment in a given year is far greater than the known amount produced. While the book posits several theories for this discrepancy, and does admit that without further study the exact reason for the discrepancies will remain uncertain, Gibbs concludes that “[w]hat is certain is that levels of dioxin present in the environment are even higher—and more dangerous—than the emissions reports suggest.”¹¹

Gibbs stresses several times in her work that dioxin levels in humans in the United States, as per a report of the EPA, “are at or near the levels known to cause harm.”¹² This point underscores the book’s urgent tone. Gibbs stresses that action must be taken now or harm will occur.

A logical question that arises from the EPA reports is what exactly are the harmful effects of dioxin. Gibbs does an excellent job of discussing, in an easily understandable manner, the health risks associated with dioxins, including problems with cancer, the reproductive system, skin conditions, diabetes, lung disease and gastrointestinal, nervous and circulatory disorders. In regard to cancer, Gibbs explains that dioxin is a “promoter” rather than a direct carcinogen. Simply put, instead of creating cancer causing changes in DNA, dioxin facilitates the growth or spread of cancer by “accelerating cell growth, by suppressing the immune system, or by affecting hormone function.”¹³ Although this seems less threatening than the presence of a direct carcinogen, promoters often cause the reproduction and spread of cancer from a single cancerous cell. Without the presence of promoters, the mutated cell would likely die before it divides.

After discussing the grave problems with dioxins, Gibbs offers a two-fold plan for combating the poison. On an individual level, Gibbs explains that humans must reduce their dioxin intake. Since dioxin is not water soluble, but is soluble in fat and is passed to humans through the food chain, reduction of dioxin intake can be accomplished by consuming less fat. This means eating less meat and more lower-fat foods like skim milk and skinless chicken. However, Gibbs concludes that “there is no way for us . . . to completely

11. *Id.* at 62. The possibility exists that the difference represents natural dioxin production or the relocation of previously produced dioxin.

12. *Id.* at 75 (quoting EPA report). Gibbs does not report how these figures were determined.

13. *Id.* at 93.

eliminate dioxin from our food Steps must be taken to stop dioxin exposure by stopping the production and release of dioxin."¹⁴ The second part of the book focuses on how to organize to fight the production of dioxin.

PART TWO: ORGANIZING

Part Two of the book begins by stating that "[t]he truth won't stop the poisoning. But organization will."¹⁵ Certainly the aim of the first part of the work was to provide readers with the "truth." Yet as Gibbs states, the truth is not enough; Part Two is therefore a plan for action. This is the strength of Gibbs' work. Rather than merely drawing societal attention to the facts derived from dioxin tests, she provides these facts as the basis to plan a strategy for reducing their presence in society. Gibbs offers a detailed blueprint explaining how to organize and fight back against dioxin poisoning. She outlines several fundamental organizing principles carefully designed to limit or eliminate dioxin pollution.¹⁶

The book is not only a blueprint for fighting dioxin pollution, it also serves as a research tool. In short, Gibbs not only teaches about the effects of dioxin and calls citizens to organize, she also offers the necessary tools to do so. This is exemplified in her discussion of "how to be a dioxin detective."¹⁷ In this discussion, Gibbs offers several avenues to explore in searching for information, including information made available by Gibbs' group, the Citizens Clearinghouse for Hazardous Waste, and information published by the Federal Government's Right-to-Know network. The Right-to-Know computer database holds the toxic release inventory (TRI) reports which toxic substance producers, handlers, storers and transporters must file each year under the Emergency Planning and Community Right-to-Know Act (EPCRA).¹⁸ This TRI data has proven very successful in raising community awareness.¹⁹ Gibbs then lists each potential source of dioxin; e.g., incinerators, pulp and paper mills, etc., with United States maps indicating the locations of each source.²⁰

14. *Id.* at 83.

15. *Id.* at 143.

16. Gibbs acknowledges that some of the ideas for these principles of organization came from *K. Bobo et al., Organizing for Social Change: A Manual for Activists in the 1990s* (1991).

17. Gibbs, *supra* note 5, at 205-36.

18. 42 U.S.C. §§ 11001-11050 (1988 & Supp. V 1993).

19. For a discussion of the success of EPCRA and TRI reporting see Sidney M. Wolf, *Fear and Loathing About the Public Right to Know: The Surprising Success of the Emergency Planning and Community Right-to-Know Act*, 11 J. LAND USE & ENVTL. L. 217 (1996).

20. Gibbs also identifies and discusses specific examples and locations of dioxin pollution. For instance, she discusses the tragic toxic poisoning that is a continuing problem in Pensacola,

Gibbs also offers a discussion of "indirect strategies" for stopping dioxin pollution. These strategies are meant to complement efforts that target point-source dioxin pollution. This section discusses consumer products, such as bleached paper and PVC products, that contribute significantly to the level of dioxin produced and offers alternative products for consumers.

Lastly, Gibbs offers potential industry rejoinders to this crisis and dispels their ill-formed arguments. As in any debate, it is critical to be well versed in the arguments, and this final discussion prepares citizens for the retorts of an industry in denial.

This work is an excellent tool for grass roots activism. While Gibbs argues strongly from one viewpoint, she does acknowledge opposing viewpoints. However, *Dying from Dioxin* is not meant to be an objective presentation. Rather it is a call to action and a resource for grass roots organization. In it Gibbs, who was first introduced to dioxins as a resident of Love Canal, draws upon her personal experience and that of her peers, as well as information provided by the EPA and other independent studies, to inform, educate and mobilize people at the local level. In this age when elected officials and government bureaucrats have all but forgotten the plight of the commoners, communities have been left to their own devices to protect themselves against such threats as mass scale poisoning from dioxin. It is only through the dedication and courage of individuals such as Gibbs that those communities will be able to reclaim the initiative and fight against corporate America for their health, safety and welfare. Gibbs has provided the necessary tools to fight back and win; it is now up to us to respond to the call and demand justice.

Florida. GIBBS, *supra* note 5, at 252-54. See also Bill Kaczor, *Residents Live and Die Under the Shadow of Mount Dioxin*, TALLAHASSEE DEMOCRAT, Feb. 18, 1996, at 10B (discussing the widespread health problems in Pensacola attributable to the toxic pollutants, including dioxin, that are present in large quantities).