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Robert R. M. Verchick. *Facing Catastrophe: Environmental Action for a Post-Katrina World*. Cambridge: Harvard University Press, 2010. x + 322 pp. \$45.00 (cloth), ISBN 978-0-674-04791-4.

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Environmental Policy, Ecosystem Function, and Disaster Mitigation: Lessons from Hurricane Katrina

The importance of maintaining and sustaining the natural environment—that is, in preserving “ecological services”—has long been a key tenet of sound natural hazard mitigation practice. The pioneer in the “working with nature” approach to hazard mitigation was Gilbert White, a geographer who was among the first to understand how natural systems support hazard mitigation, and how tampering with the natural order can create considerable risks.[1] White’s contributions were never fully taken up in policy. But since the 1993 Midwest floods, and now, in the aftermath of the catastrophic Hurricane Katrina, policymakers and scholars have come to greatly appreciate the value of ecosystem services as “buffers” against the forces of nature. Ivor van Heerden, for example, has discussed at considerable length the importance of natural systems in hurricane mitigation and protection.[2]

Into this debate comes Robert Verchick, an environmental lawyer at Loyola University in New Orleans. Both Verchick’s discipline and his location in New Orleans make him well positioned for considering the practical aspects of the preservation of natural systems—“green infrastructure”—as important tools in a more holistic program of hazard mitigation.

The book is written in generally non-technical language for a lay audience—which, in this case, means those who are not lawyers or environmental activists. But its readability does not diminish its intellectual value, particularly to its most likely audience. It is divided into three

parts: “Go Green,” “Be Fair,” and “Keep Safe.”

The “Go Green” section will be familiar to most students of environmental history and policy. Verchick introduces both the idea of green infrastructure and notes the extent to which this infrastructure is shrinking under various stressors, such as oil and gas exploration, which has directly and indirectly promoted land subsidence and erosion in the Louisiana bayous. He notes similar pressures in countries such as Thailand, where mangrove forests—natural buffers from storms and tsunamis—have been lost due to human activity, such as shrimping.

The second section, on fairness, is a sound explanation of why disasters are not, as so often depicted by politicians and credulous reporters, “great equalizers” that victimize both rich and poor equally. The first chapter in this section is a summary of the environmental justice idea and movement of the 1990s. Verchick does remarkably well in weaving together disparate and complex strains of thinking from law, history, and other disciplines to both explain the underlying philosophy of the environmental justice movement, and to locate its roots and logics within the other great social movements of the twentieth century, including feminism, civil rights, and environmentalism. Unlike similar works, Verchick provides cogent connections between these movements, noting, for example, that women are the leaders of the environmental justice movement largely because women and children tend to suffer disproportionate risks com-

pared with men, and minority people more than white people.

This chapter sets the stage for his chapter on disaster justice. Social scientists have known for some time that different groups of people—generally those called “disadvantaged”—experience greater risk from natural disasters which are, as Verchick notes, simply faster-acting disasters than is the slow poisoning of people living near refineries and the like. We can then consider both differential vulnerability, and the solutions to the overall problems of disaster risk and vulnerability. Verchick draws on a rich body of literature, again, to describe the disaster justice meaning of Hurricane Katrina, and to locate the debates surrounding risk and government responsibility in neoliberalism and its competing perspectives. Throughout, Verchick offers examples of what he calls “the relationship between social unfairness and catastrophe” (p. 107), using the unfairness manifest in the 1906 San Francisco earthquake, the 1927 Mississippi floods, and the 1989 Loma Prieta earthquake. He also notes that catastrophes, and the responses to them, are unfair in developing countries: the world’s poorest countries are most vulnerable to disasters, and the poorest of the poor in those countries are particularly at the mercy of nature and of poor political decisions that exacerbate suffering, such as those living under the dictatorship in “Myanmar” (Burma).

The book strongly reflects Verchick’s expertise as a scholar of the law. Verchick notes the legal silos in which laws relating to disaster and environmental policy are apportioned, using a term often used by scholars to describe all manner of—mostly dysfunctional—divisions of responsibility among organizations and governments. But he also notes throughout the book important legal doctrines and concepts, such as the public trust doctrine, and nuisance and tort laws, that can be creatively employed to protect ecosystems and to reduce vulnerability. Indeed, this is his task in the last chapter of the section on fairness. Titled “Winds of Change,” Verchick asks “how can law help to pursue disaster justice?” (p. 165). This is a key feature of this book, because, while many social scientists study and explain inequality in disasters, few engage law and legal institutions as mechanisms that either exacerbate or mitigate this vulnerability. He discusses the bodies of law around health, welfare, and the environment, and the law of antidiscrimination. He makes subtle distinctions in the laws’ treatment of *intentional* versus *unintentional* discrimination, as when he discusses the application of the Fourteenth Amendment (p. 171) against existing statutes that, to a varying extent, rec-

ognize or ignore either dimension of discrimination. Of greatest importance to disaster scholars is his analysis of the antidiscrimination aspects of the Stafford Act, the federal law governing most disaster relief programs. He also considers executive orders, compensation funds (a very timely discussion in light of the Deepwater Horizon oil spill), and other legal instruments, national and international, designed to overcome—albeit not entirely successfully—the increased risks faced by legally and socioeconomically disadvantaged people.

Part 3 discusses how to “Keep Safe.” Chapter 8 begins this discussion with what Verchick calls “Precaution and Social Welfare,” which is “adding a margin of safety to the decisions government makes” (p. 196). He calls for better risk information and communication, a goal shared by many disaster professionals. He contrasts two ways of looking at risk, the “precautionary approach” and the “social welfare approach,” both of which should be familiar to environmental historians, social scientists, and natural scientists and engineers who have long grappled with the problems of calculating and communicating risk. Precautionary thinking invokes thinking not about probabilities, but about “worst cases”[3] that are statistically unlikely but so consequential that they should not be ignored. Such an approach confronts normal ways of thinking—in insurance and engineering, for example—by forcing people to consider both *possibilities* and *consequences*. His critique of the social welfare approach is grounded in his description of the world of welfare economics, advanced economic modeling, and cost-benefit analysis, all of which have been found wanting in recent disasters because these methods fail to account for the *disaster*—that is, the time when the risk meets the hazard—in a way that considers not just the likely outcome, but the worst possible outcome.

He then uses chapter 9, “Mapping Katrina,” to build case studies that illustrate the shortcomings of dominant modes of risk management that derive from the “social welfare” tradition. While he focuses on two fairly narrow issues: “the government’s development of the protection standards used in protecting New Orleans from storm surge” and the U.S. Army Corps of Engineers’ “abandonment of a plan to install barrier gates after its environmental review of that plan was rejected by a federal court” (p. 223). Verchick’s goal is to show that this environmental review—an application of the precautionary principle—was not the reason why the flooding was so bad. His analysis of these two phenomena is good as far as he goes, but he could go further. For example, he might have noted, consonant with his earlier analy-

sis, that the flood protection system in New Orleans was complex, it was broadly designed by multiple actors, and, most importantly, many of the levees were not built for flood protection *per se*, but as a means to an end: the creation of developable land. As journalists Christopher Cooper and Robert Block have noted, the Orleans Parish Levee Board, in particular, was far more interested in land development schemes than in meeting its public responsibilities.[4] It is true that the Corps of Engineers favored “Net Economic Development” in its flood control projects, but local real estate interests in New Orleans were equally complicit in the creation of vulnerability.

Verchick convincingly, in the careful manner of an appellate lawyer, refutes the argument that suggested that environmental regulation, such as the requirement for environmental impact statements for flood control projects, doomed New Orleans to flooding. But there are also smaller-scale engineering projects that could have protected New Orleans, but were opposed by local leaders. Most prominent of these ideas were the proposed flood gates that have since been installed at the end of the notorious 17th Street and London Avenue canals. The existence of these gates may have prevented the storm surge from breaching those canals, but they were opposed by the Orleans Parish Sewerage and Water Board, which wanted to keep the canals open for storm-water drainage.

This is a well-reasoned book, largely devoid of jargon, and is both readable and valuable for its intellectual insights, of which the relationship between law and disaster is merely a part. While Verchick’s treatment is strongest on floods and coastal storms, it is not as well grounded in matters related to seismic hazards, such as earthquakes and tsunamis, or in wildfires, landslides, and other hazards. But his ideas are no less relevant to these hazards, and discerning readers will have little trouble making the connections and applying these ideas to a wide range of natural hazards.

In a book like this—which, befitting of a lawyer, is an advocacy document, not merely a scholarly treatment of the subject—one can always find rhetorical flights of fancy, such as when Verchick notes the source of the Mississippi River as a “small glacier lake in Minnesota;” it is a *glacial* lake (p. 16). And his analysis often turns toward the normative, as when he notes that the Beijing Olympics “would prove with its ‘Water Cube’ and

other stylish venues, to be one of the most expensive, lavish celebrations the world had ever seen” (p. 116). Verchick’s claim would make resources—both tangible and intangible—fungible, and suggests that China simply lacked the will to tone down the Olympics, freeing up resources and attention to spend on the earthquake. More fundamental were, as is so common, poor building practices and inadequate building codes that were selectively enforced. A more careful analysis would have noted the universal difficulties inherent in *response* to disaster. To Verchick’s credit, however, this book is less about response than it is about what disaster scholars and practitioners call “mitigation,” or limiting damage before a disaster, and, indeed, many of the ideas Verchick describes could be called disaster *prevention*, which rearrange both society and physical development in a way that would reduce, if not eliminate, the consequences of disaster.

Small criticisms aside, this is a very readable, balanced, and valuable book that draws from a wide range of disciplines and sources. It stands in contrast to the post-Katrina punditry and instant expertise that crowded out expert and sophisticated treatments of Katrina and of all disaster. This book is useful to lay readers, researchers, and would certainly be a valuable book for an environmental policy, disaster policy, or environmental law course.

Notes

[1]. Gilbert F. White, “Human Adjustment to Floods: A Geographical Approach to the Flood Problem in the United States,” Research Paper No. 29. (Chicago: University of Chicago Department of Geography, 1945); and Gilbert F. White and Robert W. Kates, *The Human Ecology of Extreme Geophysical Events* (Boulder: Natural Hazards Research and Applications Information Center, Institute of Behavior, 1968).

[2]. Ivor van Heerden and Mike Bryan, *The Storm: What Went Wrong and Why during Hurricane Katrina: The Inside Story from One Louisiana Scientist* (New York: Viking, 2006).

[3]. Lee Clarke, *Worst Cases: Terror and Catastrophe in the Popular Imagination* (Chicago: University of Chicago Press, 2005).

[4]. Christopher Cooper and Robert Block, *Disaster: Hurricane Katrina and the Failure of Homeland Security*, 1st ed. (New York: Times Books, 2006).

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