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Book Review

**TOXIC EXPOSURES: CONTESTED ILLNESSES AND
THE ENVIRONMENTAL HEALTH MOVEMENT, by
Phil Brown¹**

NATASHA AFFOLDER² & STUART E. TURVEY³

THE WIDESPREAD COMMERCIAL SUCCESS of the films *Erin Brokovich*⁴ and *A Civil Action*⁵ may have transformed Julia Roberts and John Travolta into the popular faces of grassroots environmental activism. Both films are highly sympathetic portrayals of iconic community-based environmental health conflicts. Together, they affirm the growing popular appeal of accounts of environmental health battles (particularly those where citizen efforts prevail over industrial polluters). The stories underlying these popular accounts of battles for environmental justice are the subject of a burgeoning scholarly literature documenting the rise of the environmental health movement.⁶ One of the many additions to this rich literature is Phil Brown's *Toxic Exposures*.

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1. (New York: Columbia University Press, 2007) 392 pages [*Toxic Exposures*].
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 3. Assistant Professor, Division of Infectious and Immunological Diseases, Department of Paediatrics, BC Children's Hospital and Child & Family Research Institute, University of British Columbia.
 4. Steven Soderbergh, dir., *Erin Brokovich* (Universal Studios and Columbia Pictures Inc., 2000).
 5. Steven Zaillian, dir., *A Civil Action* (Touchstone Pictures, 1998).
 6. See e.g. Jason Corburn, *Street Science: Community Knowledge and Environmental Health Justice* (Cambridge, MA: MIT Press, 2005); David Naguib Pellow & Robert J. Brulle, eds., *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement* (Cambridge, MA: MIT Press, 2005); Robert D. Bullard, ed., *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* (San Francisco: Sierra Club Books, 2005); and Devra Davis, *When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution* (New York: Basic Books, the Perseus Book Group, 2002).

In this book, Phil Brown⁷ considers the role of the environmental health movement in highlighting critical illnesses and in offering alternatives to a dominant epidemiological paradigm for research and treatment. Brown grounds this very readable work in the familiar stories of Love Canal and Woburn, which epitomize how “citizen action can make a difference.”⁸ He presents this study against a backdrop of “broad and growing public distrust” of business and government on environmental health risks.⁹ Brown approaches his task of documenting various citizen-science alliances and health-based social movements from the perspective of a self-described “environmental activist and an activist-scholar.”¹⁰

This perspective illustrates the strengths and limitations of this book. The contribution of this intensely personal, autobiographical form of writing is quickly evident in the passages describing Brown’s career and explaining his personal involvement in various causes. These sections are the most readable and rich of the entire book. They fit well in both a methodological and substantive way with Brown’s attempt to democratize research and highlight the role of individual experiences. But the dual role Brown adopts as chronicler and advocate of various environmental health movements has its costs as well.

Most notably, this insider status means that Brown is never able to step back from the organizations in which he is intricately involved and offer a critique of the movement that he describes. This is understandable, given Brown’s reluctance to provide any ammunition to those who oppose the work of these citizen health organizations. But it does create a huge gap and an imbalance in this book. Given his close involvement with these organizations over the past few decades, Brown is uniquely placed to offer constructive criticism and insight, to unpack the public image of democratized citizen organizations, and to unveil the power dynamics that influence the groups he describes. Brown could explore whether citizen groups mirror gender and class hierarchies represented in the dominant scientific models he critiques. He could ask how well these citizen groups incorporate multiple and conflicting alternative conceptions of disease or give voice to marginalized perspectives in

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8. *Supra* note 1 at xiv.

9. *Ibid.* at 10.

10. *Ibid.* at xxi.

the community. To what extent do these groups succeed in addressing not only the environmental components of disease, but also the social and economic structures which contribute to different disease susceptibilities among different populations? Unfortunately, these are not questions with which Brown engages during his entirely uncritical account of environmental health organizations. This absence of critical content diminishes Brown's ability to guide us through the important work that is being done by community leaders in environmental health and environmental justice organizations.

Toxic Exposures is a logical extension of Brown's previous book, *No Safe Place: Toxic Waste, Leukemia and Community Action*,¹¹ and an attempt to give a voice to multiple decades of research collaborations with environmental organizations. *Toxic Exposures* is generally well organized and clearly written. After an overview chapter describing how social health movements challenge traditional epidemiological paradigms, Brown devotes an entire chapter to each of the three contested¹² illnesses he explores: breast cancer, asthma, and Gulf War-related illnesses. In these three chapters, Brown describes in careful detail the work and research of advocacy organizations that have emerged around these 'contested illnesses.' These descriptive chapters would be enhanced by the addition of the perspectives of individuals and families afflicted by these diseases. The individual faces and voices of those suffering from these illnesses are curiously absent from most of this book. Indeed, the individual experience is largely blurred by an emphasis on movements. This is not to say that Brown is unaware of the significance of framing illness in terms of a collective experience. Brown sympathetically notes how the social movements he describes do impact on individual experiences of disease. He thus draws on the recent work of Maren Klawiter to illustrate how the politicization of diseases such as breast cancer alters the very experience of these diseases.¹³

Comparing the citizen-science alliances and health movements that have emerged around these three illnesses allows Brown to reflect upon the relative successes of these movements (he devotes little time to failures in this highly

11. Phil Brown & Edwin J. Mikkelsen, *No Safe Place: Toxic Waste, Leukemia, and Community Action* (Berkeley: University of California Press, 1997).

12. The connection between disease and environmental exposures remains a matter of dispute.

13. *Supra* note 1 at 30-31. See Maren Klawiter, "Breast cancer in two regimes: the impact of social movements on illness experience" (2004) 26 *Sociology of Health & Illness* 845.

sympathetic and positive account of these organizations). Thus, in chapter five, where he compares the social movements emerging around these three illnesses, Brown concludes that the strength of the social movement is often more important than the accepted scientific base in explaining a movement's success. This section would be significantly strengthened if Brown were to define what he means by success. Should it be measured by public policy outcomes, a change in corporate practices, a reallocation of research funding? Or, given the early references to Laura Pulido's theory of environmental justice as "subaltern struggles" and the recognition that such struggles "over environmental issues are never solely about the environment," does success mean that structured inequality and "institutionalized forms of domination" are effectively dismantled?¹⁴

Chapter six expands on the specific discussions of asthma, breast cancer, and Gulf War-related illnesses to suggest that a "new precautionary approach" can be seen in the public paradigm that these illnesses represent. Brown suggests that health-based social movements are a "new and important political phenomenon that empowers citizens, advances science, and guides policymakers."¹⁵ These claims of newness are worth investigating. Brown acknowledges that contested illnesses can be found in the past, citing the examples of black lung from coal mining and asbestosis and mesothelioma from asbestos. He argues that what is different now is that "the stakes are higher" with newer contested illnesses—especially breast cancer—"because of the scientific challenges and policy implications."¹⁶ Chapter seven aims to summarize the implications of the rise of these contested health movements (or, as Brown puts it in the singular, "the Contested Illnesses Perspective") for public policy and for science.

The limited geographic scope of this book should be noted, rather than criticized. The ethnographic research methodology adopted by the author likely explains why this book only examines environmental health organizations in the northeastern United States. This narrow geographic scope does raise questions about the wider applicability of Brown's research findings. The reader is also likely to wonder to what extent local groups are forming networks which

14. *Ibid.* at 12. See Laura Pulido, *Environmentalism and Economic Justice: Two Chicano Struggles in the Southwest* (Tucson: University of Arizona Press, 1996) at 4-5, 27.

15. *Ibid.* at xiv [emphasis added].

16. *Ibid.* at 229.

transcend these geographic boundaries. In particular, to what extent are global social movements influencing local environmental health movements such as those described here?

At the core of Brown's thesis lies the argument that we are witnessing an increase in environmentally-induced disease. He suggests that the genetic component of contested illnesses is overstated by self-interested medical professionals, pharmaceutical companies, and government regulators. In advancing these arguments, the author frames many issues in black and white, giving little attention to the useful shades of grey. Brown is a convincing and passionate advocate, but his writing lacks nuance and qualification.

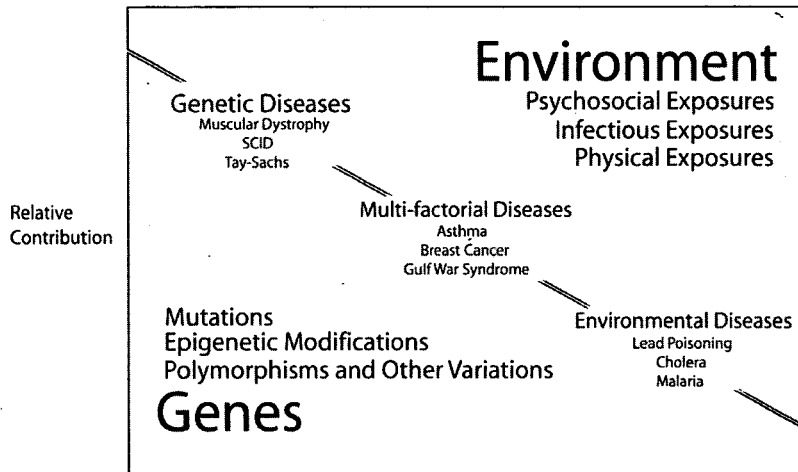
Acknowledging the important contribution of genetics in human illness does not imply that environmental factors are not important. It is now accepted that virtually all human disease arises from the interaction of genetic susceptibility factors and environmental exposures (see Figure 1, below).¹⁷ It is overly simplistic to classify any malady as either "genetic" or "environmental." Environmental factors contribute to the full clinical expression of classic single-gene defects. For example, a child with a genetic mutation that blocks the development of his or her immune system will only become ill once exposed to infectious agents in the environment. In a similar fashion, genetic factors play an increasingly recognized role in the development of classic environmental diseases. Indeed, studies examining susceptibility to environmental toxicants suggest that genetic variation can render certain individuals more vulnerable to the archetypal environmental disease—lead poisoning.¹⁸

The diseases Brown investigates—asthma, breast cancer, and Gulf War syndrome—are most accurately described as "complex" or "multifactorial" disorders. These disorders develop following a complex interplay of genetic and environmental factors. To study these multifactorial disorders as either exclusively genetic or environmental syndromes will only lead to an impoverished understanding of these contested human illnesses.

17. David J. Hunter, "Gene-Environment Interactions in Human Diseases" (2005) 6 *Nature Reviews Genetics* 287.

18. Ava O. Onalaja & Luz Claudio, "Genetic Susceptibility to Lead Poisoning" (2000) 108 *Envtl. Health Perspectives Supp.* 23, online: <<http://www.ehponline.org/members/2000/suppl-1/23-28onalaja/onalaja-full.html>>.

Figure 1: Virtually all human disease is the result of the interaction between genetic susceptibility factors and environmental exposures.¹⁹



While the environment now ranks as the top public policy concern of Canadians,²⁰ rarely is the term “environment” defined. For the purposes of this book, Brown adopts a limited vision of a toxic environmental exposure, focusing almost exclusively on air- and water-borne chemical toxins. Ultimately, a more complete appreciation of the role *the environment* plays in human illness will only be gained if the definition of environmental exposures is expanded, at a minimum, to include physical exposures (including toxic

19. Figure 1 has been produced solely for the purposes of this book review and is based on the authors’ general knowledge of the featured illnesses. Some rare diseases, such as muscular dystrophy, Tay-Sachs disease, and severe combined immunodeficiency (SCID), are classified as genetic disorders because they are caused by the deficiency of a single gene product. Nevertheless, environmental factors often contribute to the full clinical phenotype of these predominantly genetic illnesses. In an analogous fashion, individual genetic endowment influences susceptibility to diseases which have a large environmental component, such as lead poisoning and infections. In *Toxic Exposures*, *supra* note 1, Brown investigates multifactorial disorders (asthma, breast cancer, and Gulf War syndrome) that involve complex interaction between genetic and environmental factors.
20. See “Hot on the environment, and willing to sacrifice” (Globe Editorial) *The Globe and Mail* (27 January 2007), online: <<http://www.theglobeandmail.com/servlet/story/RTGAM.20070127.wepoll27/BNStory/ClimateChange>>.

chemicals), infectious exposures, and psychosocial exposures. The transformative potential of the environmental health movement indeed depends on a wide embrace of what is meant by the environmental components of disease.

While Brown explicitly adopts an environmental justice perspective and is sensitive to issues of race in disease treatment and research, there is little in the way of gender analysis here. This is unfortunate, given that the case studies Brown chooses (breast cancer, which predominantly affects women; asthma, in which the burden of disease is heavily borne by children and, in particular, low-income and minority communities; and Gulf War-related illnesses, which predominantly affect men) invite an examination of the role of gender as well as class and race in the way these three diseases are socially constructed. Brown's eagerness to challenge a dominant epidemiological paradigm with an alternative, community-based model fails in many places to acknowledge the plurality of alternative conceptions of disease. It also leads Brown to overstate the "clash of ... perspectives" between lay people and professionals.²¹ Just as there is no singular environmental health movement, there is no singular alternative model. Indeed, there can be as many conflicts among alternative models and movements as there are between alternative conceptions and dominant ones.

Toxic Exposures is a sensitively written and thoughtful guidebook to environmental health organizations operating primarily in and around New England. While it romanticizes lay views at the expense of professional ones, and often fails to acknowledge the plurality of views within any community (whether scientific, business, or NGO), this book does make a useful addition to the environmental health literature. It will be of interest to diverse audiences, including public health professionals, activists, and the reading public. This book will particularly resonate with readers who, for personal or professional reasons, associate with one of the three contested illnesses Brown explores—breast cancer, asthma, and Gulf War syndrome. *Toxic Exposures* will hopefully spawn further research that offers critical insights, wider geographic scope, and a willingness to acknowledge the complexities and conflicting perspectives inherent in the environmental health movement.

21. *Supra* note 1 at 8.

