

ENVIRONMENT AND HEALTH

On Sickness and Surroundings

Peder Anker

Environmental health and justice have moved to the center stage of ecological concern. The current debate first flared with the dramatic events at Love Canal near Niagara Falls, New York. That polluted landscape became the scene of a social call to action against lethal living conditions that culminated in the 1980 evacuation of the Love Canal community. Phil Brown's *Toxic Exposures* documents the social movements that subsequently arose to improve people's environmental health in many other locations. Asthma has been a core issue for this movement, and Gregg Mitman's excellent study *Breathing Space* explores old and recent efforts to find relief for sufferers within allergenic landscapes.

The environmental health and justice movements brought new academic perspectives that address issues related to risk perception, landscape history, and the dynamics of a democratic society. They generally focus on the social and ecological complexity of environmental health problems, and they tend to conclude that one should seek interdisciplinary answers and solutions. Instead of equating an illness with the effect of a precise cause, as medicine tends to do, Mitman (a historian of science and medicine at the University of Wisconsin, Madison) recommends paying greater attention to the social and ecological relationships of diseases. Brown (a sociologist at Brown University) also emphasizes social and ecological complexity in dealing with toxic exposures.

The call for complex analysis tends to backfire when polluters answer with the same appeal to the complexity of their social or financial situations. Both authors readily admit this and recognize the importance of finding simple solutions to urgent problems. A quick medical or technical fix to toxic pollution is more helpful to those people exposed than ten sociological or historical studies. Yet swift scientific solutions lead to a

Breathing Space
How Allergies Shape
Our Lives and
Landscapes

by Gregg Mitman

Yale University Press,
New Haven, CT,
2007. 330 pp. \$30.
ISBN 9780300110357.

Toxic Exposures
Contested Illnesses and
the Environmental
Health Movement

by Phil Brown

Columbia University Press,
New York, 2007.
392 pp. \$29.50, £19.
ISBN 9780231129480.

state in which one is dealing only with the symptoms and not the underlying causes. As Mitman points out: "We take a pill or a puff, feel better, and conveniently ignore how that chemical moving inside our bodies connects us to a larger political economy and ecology of allergic disease." It is in locating these background issues that sociologists or historians of science may be of help to the scientific community.

Brown's sociological study shows the importance of laypeople's identification of toxic exposure and challenges to established

medical perspectives. He analyzes three very different cases to demonstrate this: social movements addressing breast cancer, asthma, and Gulf War illness. In all three areas, he demonstrates, grassroots activity and mobilization played key roles in generating new scientific knowledge, finding solutions, and helping victims. Dealing with these toxic exposures required crossing specialist, social,

and economic barriers. He explains why it is more likely that social, scientific, and policy-related answers to toxic exposures will be found when questions arise from those who have been exposed. Brown's argument is particularly convincing in his analysis of breast cancer, where he documents the importance of a social (as opposed to individual) call to action, the value of laypeople raising scientific questions, and the force of ground-level political mobilization among women.

In his analysis of asthma, Brown claims that "attention to the new asthma epidemic comes from empowered laypeople who are concerned about environmental triggers of the disease." This claim needs some qualification in view of Mitman's study, which shows that the asthmatic and allergic epidemic is an old phenomenon dating back to financially "empowered laypeople" with a different social and political setting than those Brown discusses. They both hold, though, that the call to action did not start in the scientific laboratory, but instead among the victims. Indeed, the thinking of the environmental health movement Brown describes looms large behind Mitman's historical analysis.

A combination of scholarly and engaging history, *Breathing Space* offers an alluring account of how allergies shape people and the environment. Mitman's historical research, archive work, and methodology are rigorous. His account is also witty (as in telling about the well-to-do's use of allergy as a convenient justification for going on vacation; I laughed out loud twice) and moving (as when address-



Mr. A. Wiper Weeps on a train. The hood sheltered him from the dust and smoke of the railway. Hay fever could be addressed humorously by those with the money to afford the holiday cure.

The reviewer is at the Forum for University History, University of Oslo, Post Office Box 1008 Blindern, NO-0315 Oslo, Norway. E-mail: peder.anker@ffu.uio.no

ing the racial bias and environmental injustice toward the urban poor).

Mitman takes the reader through six more or less independent stories describing how allergies came to shape people and spaces in the United States. He starts with the holiday resorts of the 1870s in which the leisure class searching for escape from hay fever created a substantial tourist economy in mountain environments. At the time, allergy was understood as a functional nervous disease best cured through travel to landscapes and hotels of leisure. Mitman turns this social history of allergy into an environmental history, arguing that the upper-class escape reshaped holiday landscapes into anything but allergy-safe places. Allergenic plants such as ragweed followed the infrastructure of large hotels (e.g., trains, roads, vegetable gardens, and tree cuttings). Mitman shows how botanical research into the life and spread of the giant ragweed (*Ambrosia trifida*) led to medical investigations of its allergenic powers. From these studies came new understanding of the importance of its pollen, followed by a social “war against ragweed” in the form of massive clearings and subsequent “vaccine” of nature in the form of herbicides.

Inspired by environmental justice methodology, Mitman develops a novel way of analyzing the urban history and ecology of ghetto cultures in New Orleans and New York City in the 1960s and 1970s. Instead of pinpointing one cause of asthma, the cockroach—which inevitably led to a narrow focus on its eradication—Mitman untangles a web of environmental, racial, social, and economic factors to explain the causes of allergies among the poor. Equally interesting is his history of air-conditioning and other attempts to engineer pollen- and dust-free indoor environments as refuges from allergic diseases. In these pages, Mitman argues that the one-size-fits-all technological fix of air-conditioning could not provide an asthma-safe zone inside buildings.

Neither could the billion-dollar pharmaceutical industry, to which Mitman devotes the last part of his book. Taking medicine against allergies, he argues, is an escape from place. In addition to addressing medical treatments of the body, the book offers a plea for addressing land use, the urban matrix, and building construction as well as the social and economic inequalities that in combination create an environment triggering allergic reactions. “Allergy is not a thing but a relation,” Mitman stresses, and consequently one needs to take a broad social and ecological approach.

In reading these books, I was struck by their Amerocentric focus. Brown discusses the U.S. “environmental health movement,”

and in telling about “our lives and landscapes” Mitman only includes Americans. As the forces at work—plants, insects, animals, people, pollution, money, companies, politics, social movements, science—move around on a global scale, there is an urgent need to discuss environmental health concerns on the same international level.

Brown and Mitman show that environmental health advocacy groups have shaped not only the political and social dynamics of research but also the ways in which landscapes and society evolve. Their focus on the broad circumstances of scientific developments is both timely and important. *Toxic Exposures* and *Breathing Space* demonstrate that dreams about solving environmental problems through one medical or technological fix come at the expense of understanding the underlying social and ecological complexity of a problem.

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THEATER: MATHEMATICS

Variations on a Theorem

Louise Whiteley

A math lesson in southern India, circa 1900. The teacher is explaining what happens when you divide a number by itself—if you have ten fruits, and divide them between ten people, each gets one. Likewise with a thousand fruits and a thousand people, and for any other number you might care to mention. Srinivasa Ramanujan, a young boy already displaying unusual talent and a fondness for asking difficult questions, challenges: “But is zero divided by zero also one? If no fruits are divided among no one, will each still get one?” (1).

Ramanujan had put his finger on something that has troubled scholars as long as symbols have been used to stand for numbers: does zero really belong on the number line? How can something be nothing? Brilliant but unorthodox, he struggled to conform to the academic system

The reviewer is at the Gatsby Computational Neuroscience Unit, University College London, Alexandra House, 17 Queen Square, London WC1N 3AR, UK. E-mail: louisew@gatsby.ucl.ac.uk



Srinivasa Ramanujan (Shane Shambhu) and G. H. Hardy (David Annen).

in India and to attract the attention of the British establishment. Finally, in 1913, a letter from Ramanujan arrived in the tweedy lap of Cambridge mathematician G. H. Hardy, who recognized his genius and excitedly issued an invitation.

As a Brahmin, Ramanujan’s religious beliefs forbade him leaving India, but eventually his mother received a vision that allowed him to follow his ambition to England, just as thousands of years before the concept of zero had traveled from East to West. *A Disappearing Number*, a play from Complicite and director Simon McBurney, tells the story of the famous collaboration that resulted—and of Ramanujan’s ultimately tragic attempt to find intellectual fulfilment in cold, wartime Cambridge.

The production follows Hardy and Ramanujan—along with an array of present-day characters including math lecturer Ruth, her husband Al, an Indian call center worker, and a particle physicist—in their struggles with loss, permanence, and identity and on journeys to and from India.

The multiple narratives are knitted together through the use of repetition, overlap, and some ingenious staging. Projected scenes are used to evoke different places and times, and ordinary objects such as chairs are used to link them—serving as cars, trains, and airplanes; as dance partners; and even as the subject of musings on the essential nature of reality.

Al and Ruth’s relationship is used to help the audience follow the math. We attend Ruth’s lectures along with Al and follow his attempts to understand the ideas she is so pas-

jected scenes are used to evoke different places and times, and ordinary objects such as chairs are used to link them—serving as cars, trains, and airplanes; as dance partners; and even as the subject of musings on the essential nature of reality.

A Disappearing Number

Conceived and directed by Simon McBurney, devised by Complicite

Co-produced by Complicite, barbicanbite07, Wiener Festwochen, Holland Festival, Ruhrfestspiele, in association with Theatre Royal Plymouth. Barbican Theatre, London. Through 6 October 2007. www.complicite.org/productions/detail.html?id=43