

BOOKS

Phantom Risk: Scientific Inference and the Law

edited by Kenneth Foster, David Bernstein, and Peter Huber

MIT Press, 1993 • 457 pages • \$39.95

Reviewed by Doug Bandow

Socialism has been defeated almost everywhere in the world—except in the United States. And nowhere is the collectivist impulse stronger than in the environmental movement.

The intellectual case against the apocalyptic has long been overwhelming and is finally receiving serious media attention in the establishment press. Among the more recent books detailing the environmental lobby's fraudulent claims are Ron Bailey's *Eco-Scam: The False Prophets of Ecological Doom*, Michael Fumento's *Science Under Siege: Balancing Technology and the Environment*, and Dixy Lee Ray's and Lou Guzzo's *Environmental Overkill: Whatever Happened to Common Sense?*

Unfortunately, ecological alarmists like Vice President Al Gore continue to dominate the political process. They also enjoy ready access to the courts. The result is "two intersecting problems," write engineer Kenneth Foster and attorneys David Bernstein and Peter Huber. "The first is the great disparity between the ease with which a controversy about a suspected hazard can begin and the difficulty in resolving the nature of the connection, if any, between the suspected hazard and a health effect. The second is the havoc the resulting confusion wreaks in the courts."

Phantom Risk goes on to address these two issues in detail, utilizing contributions from biochemists, toxicologists, physicists, doctors, and other experts. Although the book is not directed at a popular audience,

its objective analysis and measured tone should make it a powerful entrant in the ongoing environmental debate.

The first set of issues addressed by Foster and his colleagues are the most dubious—"hazards whose very existence is somehow in doubt." Despite the modestness of the risks, however, the public concerns have been enormous.

For example, many household appliances, such as hair dryers, give off electromagnetic fields and have been blamed for causing cancer. Given the pervasiveness of such gadgets, many Americans have become quite frightened by everything from utility powerlines to electric blankets. Kenneth Foster of the University of Pennsylvania surveys roughly four dozen studies, finding ambiguous evidence "of a slight increase in cancer risk that is somehow associated with electromagnetic fields," but worries "that 'something is there' might be just the accumulated effect of scientific noise." In fact, scientists have yet to identify any specific hazards. Moreover, even the worst case risks pale compared to those people regularly undertake voluntarily: smoking, for instance, or failing to wear automobile seat belts.

Of particular concern to the contributors to *Phantom Risk* is the distorting impact of such issues on the court system. Writes Foster: "In science one can draw no conclusions from unexplained phenomena or inconclusive studies. But in the courtroom it is sometimes enough just to raise questions. And these studies have done that very well."

Similar is the controversy over video display terminals, which also put off electromagnetic fields and have been blamed for causing miscarriages. The reports, writes Foster, "have been overwhelmingly—but not totally—negative, finding no links between use of VDTs and spontaneous abortion or birth defects." This doesn't mean that VDTs don't cause problems; rather, the difficulties are much more mundane, what Foster calls "ergonomic and psychosocial," particularly the fact that "many clerical workers using VDTs simply have lousy

jobs." Alas, these issues are not amenable to judicial solutions.

Bendectin, sold to treat nausea and vomiting during pregnancy, has also been blamed for birth defects. Evidence of causation was dubious. Observe Louis Lasagna and Sheila Shulman of Tufts University, "the scientific evidence seems sufficient to rule out the possibility that Bendectin is a powerful cause of birth defects." But that didn't stop three juries from blaming Bendectin, effectively forcing the drug off the market. The problem here, Lasagna and Shulman explain, is the legal process, particularly the inadequate review of scientific evidence and the "all-or-nothing" nature of litigation, which ignores "the subtleties of causation."

Indeed, the legal process is at fault in all of these areas. Appellate courts refused to overturn a finding of liability, despite the contrary evidence, in a celebrated spermicide case. VDTs have so far generated only a handful of cases, but many more are in the offing. In contrast, thousands of claims were filed against Bendectin, which led Merrell-Dow Pharmaceuticals to withdraw its product, despite winning most of the court cases. The American College of Obstetrics and Gynecology complained that the result was "a significant therapeutic gap." Litigation over electromagnetic fields, including the mere *fear* of harm, has led to million-dollar judgments.

Perhaps even worse have been the abuses surrounding substances that pose serious dangers in high concentrations but little risk otherwise. *Phantom Risk* demonstrates that they are even more susceptible to the inflammatory claims of the apocalyptics.

Particularly illuminating is the chapter by Bruce Ames and Lois Swirsky Gold, both of the University of California at Berkeley. They survey eight major misconceptions regarding the risk of cancer from pollution. Contrary to popular myth, for instance, cancer rates "are steady or decreasing," they write. Animal testing at fantastically high rates of chemical contamination is of little value in predicting the actual risk to normal people. Ames and Gold also point

out that most carcinogens are natural, not synthetic, and that the natural ones are more toxic. Finally, technology brings benefits as well as costs, and campaigns to control pollution, such as pesticides, have to consider the very real trade-offs involved. As Ames and Gold point out, "Efforts to prevent hypothetical cancer risks of one in a million could be counterproductive if the risks of the alternatives are greater."

While much of the discussion in *Phantom Risks* may at first seem abstract and academic, the chapter by Harvard University's Ralph D'Agostino and Richard Wilson on asbestos helps demonstrate the book's relevance. Many school systems, like that in New York City, for instance, are struggling with expensive asbestos removal programs. Litigation, too, has become an ever-present nightmare.

There is no doubt that asbestos, long used as a fire retardant, increases the risk of asbestiosis (fibrosis of the lung) and lung cancer, among other diseases, though smoking remains a far more important cause and the issue is quite complicated. D'Agostino and Wilson do a good job of helping the reader sort through the morass. For example, there are different types of asbestos fibers; some are less harmful than others. Equally important, it is level of dosage, not mere exposure, that creates the risk. As for schools, they argue, "the risks in question are in most cases exceedingly small," between one-fifteenth and one-two hundredth that of the annual risk of driving a car. At the same time, extensive removal efforts have "led to unnecessary fear and expense to the public." Finally, there are risks from asbestos substitutes, such as fiberglass.

PCBs, or Polychlorinated Biphenyls, are chlorine compounds. High doses have proved toxic to some animals, but do not appear harmful to humans. In short, concludes Renate Kimbrough of the Institute for Evaluating Health Risks, "claims of association, based on epidemiologic studies, of chronic health effects such as cancer and trace exposure to environmental levels of PCBs are unjustified." Not surprisingly, given the hysterical nature of much of the

environmental debate, writes Kimbrough, "People have overreacted to possible hazards from PCBs at typical environmental levels."

Dioxin has become even more controversial, leading the EPA to evacuate the entire town of Times Beach, Missouri. Dioxin has been one of the leading causes of the apocalypses, making any reassessment of the risks particularly sensitive. Writes Michael Gough of the Office of Technology Assessment:

Any change in popular perceptions of dioxin would be a sharp challenge to the idea that cleaning up tiny amounts of chemicals in the environment will significantly improve human health. After all, if some scientists and many others were mistaken about the worst of carcinogens, perhaps they are also mistaken about other chemicals, for which evidence of carcinogenicity and human exposure is far less certain.

Gough's analysis suggests that, in fact, many people were mistaken about the risks of dioxin. Again, what *Phantom Risk* delivers is a detailed yet accessible review of the scientific data. Gough's conclusion, not surprisingly, is that early, hysterical charges were not backed up by later, serious research.

The book also devotes chapters to three celebrated examples of radiation exposure and their effects: the Three Mile Island nuclear reactor, U.S. nuclear testing, and the Ferwald uranium plant. All of these resulted in considerable fear, even panic; all also generated enormous legal controversy, particularly among veterans exposed to the fallout from nuclear tests. In all, the fears appear to have been overblown. Typical is the conclusion of George Tokuhata, of the University of Pittsburgh: "The study found no evidence of excess cancer deaths in the five years after the TMI accident. On the contrary, residents in the area within 20 miles of the plant had fewer cancer deaths than expected during the 5-year period."

Phantom Risk goes on to provide a summary round-up chapter of the legal status of

these groups. There are a lot of cases, some good decisions, and many bad judgments and settlements. Hundreds of millions of dollars have been paid out by private firms and public agencies to compensate plaintiffs for harms that appear dubious at best.

The book's final section involves questionable medical theories. Marvin Romsdahl of the University of Texas covers the now largely discredited cases where cancer was blamed on trauma, such as a blow to the head. The issue well illustrates the problem of junk science. Writes Romsdahl, "interest in the possible connection between trauma and cancer developed not because of any scientific breakthroughs but because of great social changes associated with the industrial revolution," including worker's compensation laws.

Today's equivalent of traumatic cancers may very well be "Multiple Chemical Sensitivities" (MCS). Michael Luster, Gary Rosenthal, and Dori Germolec of the National Institute of Environmental Health Sciences critique what has become one of the most extreme claims of some environmentalists, that exposure to even otherwise seemingly harmless synthetic chemicals may cause neurological or emotional disorders. The result has been the usual raft of lawsuits that the courts are ill-equipped to handle. Many MCS victims do indeed seem to suffer distress, but causation remains unclear.

The difficulty in trying to resolve these sorts of problems in court is ably demonstrated by attorney Richard Cornfeld and Harvard Medical School professor Stuart Schlossman as they discuss the case of *Elam v. Alcolac*, which involved 31 plaintiffs claiming that chemical exposure severely depressed their immune systems. The result was a nearly \$50 million verdict yet, complain Cornfeld and Schlossman, "the court did not cite any evidence of damage which any competent immunologist would accept." They argue that the litigation showcases the inability of juries to decide complex scientific questions and should lead to the development of new rules of evidence to cover these sorts of claims.

All told, the intersection of law and science has not been a pretty one. There are two separate problems, which, warn the editors, together create chaos: first, "much confusion, error, and ambiguity surrounds risk research, at least when searching for small risks"; second, we have "a legal system that sometimes raises more questions than it settles."

Unfortunately, there is no way to avoid some problems of this nature. Science is uncertain, experts make mistakes, the courts are open to everyone, lawyers have an incentive to file speculative cases, and juries are usually authorized to decide the facts of legal cases. Still, the process could be improved. Write the volume's editors:

Probably the best that legal reformers can do is to suggest ways to help improve the quality of the scientific evidence that is presented in court. The goal is not to raise standards of proof to levels so high that no plaintiff could hope to win, but rather to ensure that the scientific testimony that is presented to juries is as reliable as possible. Expert testimony needs to be *verifiable*, and, where possible, *consistent with a consensus of scientific opinion*. It needs to address at least three issues: the existence of a hazard, the plaintiff's exposure, and the risks associated with the exposure. In legal terms, it needs to be more probative than prejudicial.

They go on to recommend eight specific changes, which deserve to be taken seriously by judges and legislators alike. For even our wealthy society, they worry, "phantom risk remains a diversion that is too expensive."

Phantom Risk is an important book—an indispensable reference for anyone desiring to confront the environmental apocalypses who seem dedicated to litigating and regulating our society into ruin. Rather than offering political polemics, the book's editors and authors let their abundant evidence speak for itself. Which is precisely why *Phantom Risk* presents a challenge that the

environmental lobby will find difficult to ignore. □

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Bankers and Regulators

with an introduction by Hans F. Sennholz

The Foundation for Economic Education, 1993
• 176 pages • \$14.95 paperback

Reviewed by Robert Batemarco

“Money is different,” we are told by practically every member of the economics profession, including many who stand tall against government intrusion in every other sector of the economy. This difference, in their eyes, legitimizes government provision and control of money as well as its regulation of those private institutions which create and lend money. The contributors to *Bankers and Regulators*, the eighth volume in the *Freeman Classics* series, however, find that line of reasoning unpersuasive. So will the reader of this book, when faced with its revelations of not only the adverse consequences of those regulations but also of successfully applied alternatives to government regulation.

The book consists of a lengthy introduction and seventeen articles, all of which, at one time or another, appeared in *The Freeman*. While one (a William Cullen Bryant piece critiquing usury laws) was written in 1836, most are of recent vintage, with over three quarters of them first published within the last ten years. The age of the pieces in this collection is of little consequence, as they are based on principles which remain as valid today as when they were first written.

Bankers and Regulators is divided into three sections, which roughly correspond to theory, history, and policy prescriptions.