

Lead Wars

*The Politics of Science and the Fate
of America's Children*

GERALD MARKOWITZ AND DAVID ROSNER

University of California Press

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“The story Rosner and Markowitz tell of generations of children gravely damaged by promiscuous dispersal of lead, and the persistent attempts made to evade responsibility for the harms caused, is both true and shocking. This book will not just educate future environmental and health leaders, it should outrage them.”

RICHARD J. JACKSON, MD, MPH, Professor and Chair, Environmental Health Sciences, UCLA Fielding School of Public Health

“Can being poor justify differing standards for research or a focus merely on harm reduction and the politically feasible? Markowitz and Rosner make the compelling case that in public health the practical and possible may in the end be immoral and dangerous, and a consequence of the war on science. A necessary read for anyone who cares about public health, the role of government, children, medical experimentation and environmental justice.”

SUSAN M. REVERBY, McLean Professor in the History of Ideas and Professor of Women’s and Gender Studies, Wellesley College

“Lead poisoning remains a tragedy (and scandal) of immense proportions, and the authors utilize new sources—including previously unexamined court records—to tell a story that is as gripping as it is important.”

ROBERT N. PROCTOR, Professor of the History of Science at Stanford University and author of *Cancer Wars*

“Markowitz and Rosner have majestically woven the key characters and elements of the history of lead poisoning into a captivating narrative that exposes a tremendous and terrifying truth; unless it serves the needs of private enterprise, public health is incapable of controlling the causes of chronic disease and disability. In place of prevention, we have settled for partial solutions. Everyone who has an interest in public health, health policy or history should read this book.”

BRUCE LANPHEAR, MD, MPH, Clinician Scientist, Child & Family Research Institute BC Children’s Hospital and Professor of Health Sciences, Simon Fraser University, Vancouver, BC

Lead Wars

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For Andrea and Kathy

And

*In memory of John Rosen, MD, whose life was
dedicated to protecting children and their families
from the scourge of lead poisoning.*

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Foreword

The Milbank Memorial Fund is an endowed operating foundation that works to improve health by helping decision makers in the public and private sectors acquire and use the best available evidence to inform policy for health care and population health. The Fund has engaged in nonpartisan analysis, study, research, and communication since its inception in 1905.

Lead Wars: The Politics of Science and the Fate of America's Children, by Gerald Markowitz and David Rosner, is the twenty-fourth book in the series California/Milbank Books on Health and the Public. The publishing partnership between the Fund and the University of California Press encourages the synthesis and communication of findings from research and experience that could contribute to more effective health policy.

Markowitz and Rosner's first book published in the California/Milbank series, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, provided the early history of the lead industry's efforts to sell its product while knowing the devastating health effects it had on those exposed to it, particularly factory workers employed in lead-based industries and children living in homes decorated with lead paint. In *Lead Wars*, the authors reveal how this preventable, century-long public health scourge continues to plague children because partial removal of lead from homes—a process that proponents claim yields safe levels of lead—has been the chosen policy over complete abatement. While children rarely die of lead poisoning today, their exposure to “safe” levels of lead, instead of being protective, has caused them irreparable damage in the form of neurological, physiological, and behavioral problems.

Lead Wars underscores the present-day challenge of public health, with the field's shift of focus from prevention to harm reduction in the face of declining resources, lack of political mandate, and questionable professional

will. As a result of the authors' thorough research and analysis, this book will provide compelling reading for historians, sociologists, public health officials, ethicists, environmentalists, and anyone else interested in the effects that public policies have on people's health and the environment.

Carmen Hooker Odom

President, Milbank Memorial Fund

Samuel L. Milbank

Chairman, Milbank Memorial Fund

Preface

In 1996 the City of New York Law Department asked us if we would evaluate a huge cache of documents they had received on lead poisoning and the lead industry. Several families whose children had been injured by lead paint used in some of the city's public housing had sued the City; the City, in turn, had filed a suit against the lead industry, claiming that the industry bore some responsibility for injuries to these children. Through the discovery process the City had now amassed a roomful of documents that were drawn largely from the Lead Industries Association, the trade association for manufacturers of lead paint and other lead-bearing products. What, the City wanted to know, was in these voluminous papers it had accumulated? Could we help them figure out what these records showed about the history of lead, lead pigment, lead poisoning, and what the industry knew of lead's dangers? Thus began a journey into the world of childhood lead poisoning that led ultimately to the writing of this book.

What we found in that roomful of material and the further investigations it spurred became the basis for part of our earlier book, *Deceit and Denial: The Deadly Politics of Industrial Pollution*. That account of industry's role in the development of a public-health tragedy would not have been possible without litigation, which brought to light literally hundreds of thousands of pages of company documents. In fact, without the cases, historians would never have seen internal memos and minutes of meetings in which company representatives from the National Lead or Sherwin-Williams companies, among others, discussed among themselves the dangers that lead paint posed to children as early as the 1920s. Nor would we have been able to learn of marketing campaigns aimed at counteracting public concerns over the dangers of lead—ads claiming lead paint was safe, sanitary, and useful on children's walls, furniture, and the like.

The documents gave us a new perspective on the history of lead poisoning, especially childhood lead poisoning, and its effects. The immediate fruit of our efforts was a lengthy affidavit that became part of the New York City case and then was quickly incorporated in other legal actions that, by the end of 2002, were under way in Chicago, New York, Buffalo, San Francisco, St. Louis, Milwaukee, and other cities around the country. Some of these cases were quickly dismissed by judges, but others were allowed to go forward. We were contacted and agreed to serve as expert witnesses in a number of these suits and, subsequently, other ones.

As we were preparing *Deceit and Denial*, the Attorney General's Office of Rhode Island asked if we would serve as historical consultants and, possibly, expert witnesses, in what would prove to be a groundbreaking lawsuit against the lead pigment industry.¹ After years of document review and preparation, we were each deposed for many days and then appeared on the stand as experts for six days each. The jury verdict in favor of the State was exhilarating for us: history, we saw, had played an important role in addressing one of public health's oldest and most frustrating epidemics—childhood lead poisoning. Two years later, however, Rhode Island's Supreme Court overturned the jury verdict, reasoning that the case had been brought to court under the wrong law.² Controlling the lead poisoning disaster, like resolving so many other environmental problems that currently plague the nation, would require more than history and good science.

In 2006 we were asked to testify about the history of lead poisoning in Maryland's House of Delegates in conjunction with a hearing on proposed legislation. Lead poisoning had a special resonance in Maryland at the time because of the continuing epidemic that affected Baltimore's children in particular and because of a highly controversial court case that had attracted national attention and was still fresh in the minds of community advocates, researchers, and legislators. This case, which revolved around research conducted at Johns Hopkins University involving more than a hundred African American children, is a leitmotif that runs through this book. As we looked into the case (in which we had played no role) and the circumstances behind it, we realized that it offered a window into the broader arguments about lead poisoning, society, and the emerging scientific evidence on the harmful health effects of relatively low-level exposure to various pollutants, lead among them.

If the history of lead poisoning has taught us anything, it is that the worlds we as a society construct, or at least allow to be built in our name, to a large extent determine how we live and how we die. The social, economic, political, and physical environments humans create bring about specific

diseases that are emblematic of these conditions. If poverty, for example, and great disparities of wealth result in those on the bottom of the social scale living in crowded conditions without access to pure water, adequate sanitation, or pure air, we can expect infectious and communicable diseases to predominate as they did in nineteenth-century American cities. If we systematically pollute our water and air, we can expect chronic diseases emblematic of the late twentieth century to predominate.

Lead poisoning is a classic example of what happens when we take a material that was once buried deep underground and with which humans rarely had contact and introduce it widely into humans' ecology. In the 1920s, the additive for gasoline, tetraethyl lead, was called a "gift of God" by an industry intent on profiting from it. Despite warnings at the time that this industrial toxin might pollute the planet, more than a half century passed before it was finally removed from gasoline. In the 1920s and 1930s, asbestos was touted as a "miracle mineral" despite its identification as a cause of fibrosis and cancers among industrial workers. Yet it too was broadly introduced into our homes, schools, and workplaces with little or no controls. From the depths of the Depression through the Cold War years, the tobacco industry used physicians themselves to sell cigarettes, promoting smoking as a means to reduce stress and enhance one's personal appeal. In the 1940s and 1950s, DDT (marketed as "Doomsday for Pests" and even sold to consumers in a Sherwin-Williams paint called "Pestroy"),³ PCBs, and a variety of other poisonous chlorinated hydrocarbons were poured over our farmlands and began appearing in the tissue and blood of virtually all animals, people included, the world over. Today, bisphenol A, a proven endocrine disruptor, has been used in a wide variety of consumer products, including baby bottles, superglue, and water bottles, leading to the discovery that, like PCBs, it is in virtually all of us. Few of the synthetic materials that have been introduced into our environment and therefore into our bodies have been tested for their long-term health effects. Even more troubling, we are often not sure how to go about doing the appropriate testing or evaluating whatever data we accumulate.

This book is about an ongoing grand human experiment in which we as a society are unwitting subjects. It is about a test that is taking place on all of us, a test of thousands of existing materials and chemicals, like mercury and PCBs, and new chemicals and materials whose safety is largely unproven and whose effects are unknown. None of the industries that are introducing these new chemicals and materials have told us that they are unsure of the potential harm these products may cause, nor have we consented to be part of this "study."

We tell of this grand experiment through the modern history of the oldest and perhaps most widely dispersed environmental toxin, lead, a material that has oftentimes been marketed as an essential ingredient in industrial society. For the past hundred years mining concerns, pigment manufacturers, the auto and chemical industries, and a host of other companies have based their profits on this material. But for the past hundred years it has also been known that lead was killing workers in the factories that used it and children in the homes that were painted with it. Now scientists are learning that even those adults who thought they had escaped its immediate effects are at higher risk of heart disease, kidney damage, and even dementia. In *Deceit and Denial*, we detailed the early history of the industry's knowledge of lead's dangers, showing how lead was sold to the American public through advertisements and marketing campaigns that "catered to the children" and portrayed lead products as essential to American life.

This new book takes a wider view. It attempts to show how, in the case of lead, growing scientific understanding of the effects of the grand experiment has led to the "Lead Wars" of the title—sharp contests among advocates for children's well-being, the lead industry and other interests that have played out in federal, state, and local government; the media; the courts; and the university. These contests have involved everything from the meaning of disease, primary prevention, and abatement to who should bear responsibility for risk and poisoning in the nation. For a century, children, poisoned primarily by leaded gasoline fumes and lead paint in their homes, have borne the overwhelming burden of this grand experiment in the form of permanent brain damage, school failure, loss of intelligence, and even death.

In these contests over lead exposure the public health profession has played a critical role, and it accordingly has a prominent position in this book; the struggles within it offer a microcosm of the contending forces as they have played out in the larger society over how best to regulate our environment and how to protect our children. As we showed in our earlier work, the lead industry ensured that children would be forced, as one physician put it, "to live in a lead world."⁴ But the task of protecting children was left to a public health profession divided within itself that, despite some remarkable successes, has neither the resources nor the authority to do what's needed on its own. The remedies that do exist have so far proven to be politically unfeasible. In the meantime, the nation continues to sacrifice thousands of children yearly, deeming them not worthy of our protection.

Acknowledgments

The journey we have taken over the past decade writing about the lead wars has given us the opportunity to meet and work with an extraordinary group of dedicated people. We have gotten to know and to learn from public health scientists who, at various times, have been invaluable guides through the maze of the science and politics as well as the moral and ethical dimensions of our story. We are indebted to the people we have interviewed and who provided us with primary documents, including minutes of meetings at the National Institutes of Health (NIH), the U.S. Environmental Protection Agency (EPA), and other government agencies and public forums.

Paul Mushak was particularly helpful, forwarding boxes of documents from his personal files as well as providing us with extremely useful interviews. He generously and quickly responded to our numerous requests for information and clarification as we drafted portions of our book. Bruce Lanphear has also been an invaluable source of information and critical comment. He twice read the entire manuscript and provided detailed and thoughtful criticisms that have proved enormously important to us. Dave Jacobs, whose work with the U.S. Department of Housing and Urban Development (HUD) was a critical part of lead's history but largely lies outside of this account, was another extremely generous source. We spent days in his home sorting through the files he had accumulated from his years at HUD as well as other boxes of material of his wife, Kathryn R. Mahaffey, whose work on the dangers of mercury, lead, and other heavy metals while at various government agencies (including the National Institute for Occupational Safety and Health, the National Institute of Environmental Health Sciences, the U.S. Food and Drug Administration, and the EPA), deserves its own special attention. We will never forget