

DEADLY DUST

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DEADLY DUST

SILICOSIS AND THE ONGOING STRUGGLE
TO PROTECT WORKER'S HEALTH

David Rosner and Gerald Markowitz

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To Kathy and Andrea

Foreword

Howard Markel and Alexandra Minna Stern

If someone decided to compile a list of horrible and deadly occupational diseases, silicosis would surely lead it. Silicosis involves the chronic and massive destruction of the lungs and is caused by the long-term inhalation of silica (finely ground sand) dust. It initially causes terrible shortness of breath and ultimately slow suffocation and death. A malady that afflicted those working in mines, smelters, foundries, and other industrial settings during the late nineteenth century and the first half of the twentieth century, silicosis was a poorly understood disease that rose to prominence in the 1930s and virtually vanished from the public and medical eye after World War II.

In 1991 David Rosner and Gerald Markowitz brought the fascinating and disturbing history of silicosis in America to light, demonstrating how a devastating disease can be forgotten despite its affecting hundreds of thousands of American workers. When *Deadly Dust* was first published, the book quickly became a model of historical scholarship as it forged into the relatively uncharted terrain of the history of occupational and environmental health. While historians of medicine and public health have long documented many aspects of the human experience of illness using the critical lenses of culture, social order, class, gender, ideology, policy, and technology, occupational and environmental health have received much less attention. *Deadly Dust* expanded the purview of the history of medicine, exploring in meticulous detail and analyzing with great insight how dangerous chemicals and hazardous conditions had endangered, incapacitated, and led to the deaths of America's workingmen and -women.

The impact of *Deadly Dust* reached far beyond library shelves and history seminar rooms, however. The information it contained was widely circulated in legal arenas and courtrooms as lawsuits about industrial and environmental health were heard across the country during the 1990s. This reflected the book's relevance to ongoing and largely preventable health hazards in the industrial workplace as well as the authors' ability to convey complex and potentially dry and technical material in a lively and human fashion. The authors' presentation of the personal stories of workers whose lives were irrevocably damaged by the sequelae of silicosis is engaging storytelling written in the finest style of social history.

We are fortunate that David Rosner and Gerald Markowitz have been consistently on the vanguard of this critical chapter in the history of medicine and health. From their pathbreaking scholarship on silicosis to more recent

forays documenting the role that lead and other industrial toxins have played in American society, Rosner and Markowitz have done so much more than merely advance their scholarly fields; indeed, their work has helped to significantly advance both knowledge and health.

Given that we live in a time when workers continue to be exposed to dangerous toxins and health care protections are often in jeopardy, the book's lessons are more cogent and as vital as they were fifteen years ago. This book exemplifies how a nuanced understanding of an era's social, political, economic, and intellectual markers can productively help to shape our responses to particular health problems.

In this new and expanded edition of this classic work of public health history, Rosner and Markowitz have added a new preface, a closing chapter, and an informative appendix that expand on the story of silicosis; the worker; and, more broadly, occupational health in the decade and a half since the book's original publication. Most striking is the return of silicosis to popular and professional consciousness, in part because of the publication of *Deadly Dust*, as witnessed in the medical literature; in tort litigation; and, in some instances, in an increasing commitment on the part of industry to address this dire health problem.

Rosner and Markowitz are not only intrepid and creative researchers who consistently manage to find new and critical documentary evidence about the history of occupational and environmental health; they are engaged scholars in the finest tradition of that by now overused label. Always in a state of action, progress, or motion, these two historians, more than anyone in the field, have dedicated their scholarly prowess and brilliant command of the historical literature to demonstrating our contemporary responsibilities toward ensuring a healthy and safe workplace for all workers—blue collar and white collar, executive and laborer, miner and clerk.

We are delighted to present this newly updated and revised edition of this critically important book, a volume in the series *Conversations in Medicine and Society* published by the University of Michigan Press. Rosner and Markowitz poignantly demonstrate that far more than mere conversation is necessary when fighting for the health needs and rights of workers and combating the evils of wholly preventable occupational diseases. And that something more is action.

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Preface to the Second Edition

In 1991, when we published *Deadly Dust*, our history of silicosis, a dread occupational lung disease caused by the inhalation of finely ground sand, we thought we were developing an interesting case study of the social relationships that allowed for the identification and the “forgetting” of an obscure disease. It was a book, we thought, for a small group of specialists in the history of medicine, and we hoped it would become a model for those investigating the social history of public health. But since that time, silicosis has emerged as a major occupational problem and has attracted the attention of the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH), and the Mine Safety and Health Administration (MSHA), along with other agencies that name it their target disease. Our book has played a role in bringing attention to this disease again and has also played a role in lawsuits and government meetings. Recently, different newspapers and legal journals have noted that silicosis may be the “new asbestos.”¹

We did not intend to write a history of silicosis when we began our project in 1983. Our goal was to write a history of occupational and environmental health because few historians were paying any attention to the enormous impact on workers’ lives of diseases created by the industrial workplace. In fact, many activists argued that there was no history of occupational and environmental health prior to OSHA, the Environmental Protection Agency (EPA), and Rachel Carson. We thought this project would last approximately three years.

But it quickly became apparent that this history was indeed complex, deep, and very interesting. As we researched the general topic it became clear that silicosis—a disease we and most other historians (and indeed, most physicians) had never heard of—had been a major issue. As we interviewed Lorin Kerr and other older physicians about black lung and asbestosis (which dominated the news at that time), they continually referred to silicosis in the 1930s as a critical moment in their lives and in medical and public health thinking about occupational lung disorders. This observation coincided with the growing pile of articles and reports on silicosis in the first third of the twentieth century that had accumulated in our office. The combination of the growing stack of materials in the corner and the comments by older occupational doctors made us realize that the story of occupational and environmental disease was impossible to tell without an understanding of this seemingly obscure condition.

¹ J. Glater, “Suits on Silica Being Compared to Asbestos Cases,” *New York Times*, September 6, 2003, C-1.

The book we wrote tells the story of a condition that dominated public health, medical, labor, and popular discourse on disease in the 1930s but that virtually vanished from popular and professional consciousness after World War II. How, we asked, could a chronic disease that took decades to develop and that was assumed to affect hundreds of thousands of American workers disappear from the literature and public notice in less than a decade? This question is the basis for *Deadly Dust*, and we believe that we answered it, providing a cultural, medical, and political model of how we, as a society, decide to recognize or forget about illness. The book received widespread praise in historical and medical journals, being called a “paradigm” for historical research on disease. The story we told tapered off in the 1950s and early 1960s, when the literature on silicosis waned. As historians, we believed this was the end of our narrative.

While we were wary of traditional explanations for why the disease vanished (i.e., that it was “cured” or was eliminated as a problem by preventive measures), we implicitly accepted the idea that this was, in fact, a disease of the past. We quickly learned otherwise when, shortly after the appearance of the book, lawyers in Texas, Louisiana, New Jersey, and elsewhere began to call us to appear as expert witnesses in silicosis cases. We soon learned of horrifying situations that made us realize that, far from being a “disease of the past,” silicosis unfortunately was quite alive. In Texas, Mexican American and Mexican workers—both documented and undocumented—were dying from silicosis in the oil fields of West Texas. They had been hired to sandblast (with no or very inadequate protection) the insides of various oil tanks, pipes, and other equipment used after the oil shortage of the 1970s led to the rejuvenation of the U.S. petroleum industry. Another epidemic emerged in Louisiana in the 1970s among shipbuilders and painters; elsewhere, in a host of foundries and other industries, workers were regularly being diagnosed with silicosis.

Dramatic and very troubling stories began to accumulate as we got deeper into these cases. We learned of Dr. Steven Weisenfeld, a physician in West Texas whose life was disrupted when he began to diagnose cases in Mexican American workers. He was forced out of the medical society, was denied his hospital privileges, and lost many of his friends and colleagues in Odessa and Midland—all because he appeared to be pinning blame for these workers’ deaths on the oil companies that dominated the economic and social life of the area. He sent pathology reports to Dr. Jerrold Abraham at the medical center of the State University of New York at Syracuse, an old colleague from medical school at the University of California, San Francisco. Together they uncovered a silicosis epidemic among sandblasters in the West Texas oil fields.

The workers’ stories in and of themselves were heartbreaking, as we visited the area and learned of families destroyed by the slow, painful, and inevitable death caused by this disease. We learned of the case of John Farmer, an Af-

rican American sandblaster who was born during the Depression along the Gulf Coast of Texas.² He spent two years in college, joined the army, and then worked primarily in a shipyard as a laborer and sandblaster until 1982, when he retired. Because of his short, thin stature (five feet, six inches tall, weighing less than 125 pounds), Farmer was often sent into the poorly ventilated holds and double bottoms of ships, where he sandblasted off asbestos and other residue. He usually used a “desert hood” to protect himself against ricocheting particles, a cartridge respirator to partially filter the silica-laden air he breathed, and sometimes an air-fed hood: a cumbersome spacesuit that supplied him with relatively pure air for the short time he was able to wear it in the hot and humid environment of this southern shipyard. In 1988, when he was fifty-three years old, a doctor diagnosed him with “massive progressive fibrosis.” Three years later, he had deteriorated to the point that he “was no longer able to walk and [could] only stand briefly while using supplemental oxygen.” After considering him for a lung transplant, the physician noted that this fifty-six-year-old man’s future looked “bleak”—in terms of both longevity and quality of life.³

We also studied the case of Lawrence Brown, who was born in Louisiana in 1946. Following discharge from the army in 1977, he began working as a sandblaster and painter for a company that contracted nonunion workers out to almost every major refinery in the Port Arthur, Texas, area. Brown usually wore a desert hood and sometimes a paper dust mask as he blasted the insides of storage tanks and other vessels, preparing them for painting. In 1988, at the age of forty-one, he developed night sweats, violent coughing, and shortness of breath. He was diagnosed with tuberculosis at a veterans’ hospital. Two years later he had lost more than twenty pounds and had persistent coughing, intermittent episodes of vomiting, and shortness of breath. He had difficulty exerting himself to take a shower. In June 1990, doctors reevaluated his X-rays and diagnosed silicosis. Brown died at the age of forty-six. He had sandblasted for only ten years.⁴

From the 1990s to the present, thousands of lawsuits have been filed across the country by lawyers for workers in a host of “dusty” industries; these suits have reawakened national attention to the ongoing threat from silica exposure. Through the “discovery” process of the lawsuits, thousands upon thousands of new documents have been uncovered about the machinations of industry and government’s response in the years following the formation of OSHA, NIOSH, the EPA, and MSHA in the early 1970s. The industry mobilized to stop any reform from happening. We have in our possession thousands of pages of material from the Silica Safety Association and other industry groups dedicated

² The names and some identifying information have been changed in these vignettes.

³ Personal communication, M. Diane Dwight, Provost & Umphrey, Beaumont, Tex.

⁴ Personal communication, M. Diane Dwight, Provost & Umphrey, Beaumont, Tex.

to stopping efforts to lower silica exposure and to once again keeping silicosis out of the public's purview.

Because we have been called to testify in depositions and in court about the longstanding knowledge of the industry concerning the dangers to the workforce of silica exposure, we have continued to follow the story and to gather new information about these efforts by the industry. We are particularly proud that lawyers for various industries have sought to get judges to exclude our book from court cases. Most recently, a judge in Mississippi was asked by defense lawyers to specifically ban any use or mention of our book in court. The request was denied.

We are extremely fortunate to have received support from the Robert Wood Johnson Investigator Awards program for the past two years. This support has freed us to undertake some major projects and some smaller ones as well, including this revision. *Deadly Dust* itself has had a wonderful life both within and outside of academia, and we are producing this new edition with this in mind. The body of the work remains unchanged. What we have added is a new seventh chapter that brings the story more up to date and an appendix that is based upon documents that we accumulated over the course of the past fifteen years. The history of silicosis is still unfolding. Just like in the 1930s, when lawsuits forced this terrible disease onto the national agenda, so today lawsuits are once again proving to be the spur that brings this issue to light among industrial hygienists, agencies of government, occupational health officials, and academics. Recently, the International Agency for Research in Cancer has raised the stakes of these lawsuits and emphasized the importance of silica as a health hazard. In 1997, this agency "concluded that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the forms of quartz or cristobalite from occupational sources."⁵

We are deeply gratified that the University of Michigan Press has once again made this book available. We are also pleased that it has had such a rich life in so many different arenas of the academy, government, and public life. But most important, we wish that our book had indeed been only a history of a medical and public health curiosity, not a history of a wholly preventable disease that continues to kill and maim workers throughout the country and throughout the world.

*David Rosner, Columbia University, Mailman School of Public Health
Gerald Markowitz, John Jay College and CUNY Graduate Center
October, 2005*

⁵ Julian D. Wilbourn, Douglas B. McGregor, Christiane Partensky, and Jerry M. Rice, "IARC Reevaluates Silica and Related Substances," *Environmental Health Perspectives* 105 (July 1997): 756-57.