

people . . . ?” In these times of outbreaks of West Nile virus infection and the severe acute respiratory syndrome, one cannot help but think of the more cautious and somber comment of Claudius in Shakespeare’s *Hamlet*: “Diseases desperate grown / By desperate appliance are relieved, / Or not at all.” Some stories that involve intrigue and human tragedy, such as *Hamlet*, will always challenge us and leave unanswered questions.

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DECEIT AND DENIAL: THE DEADLY POLITICS OF INDUSTRIAL POLLUTION

(California/Milbank Books on Health and the Public.)
By Gerald Markowitz and David Rosner. 408 pp., illustrated.
Berkeley and New York, University of California Press
and the Milbank Memorial Fund, 2002. \$34.95.
ISBN 0-520-21749-7.

DECEIT AND DENIAL CHRONICLES THE history of poisoning by environmental lead and vinyl chloride. Parts of the stories have been told before, but recent litigation has forced thousands of once-secret industry documents into the open, revealing long-standing conspiracies to conceal evidence of the hazards of these two agents from the American public.

Lead is an old but continuing industrial hazard. Italy’s Bernardino Ramazzini, in his book *Diseases of Workers*, published in 1713, lamented the poisoning of potters and painters by lead-glazing fumes and lead paints, respectively. Markowitz and Rosner show that new forms of lead poisoning emerged in the 20th century primarily as a result of the manufacture of tetraethyl lead, which was introduced as an antiknock compound for gasoline, and the increasing affordability of lead-based paint, valued for its durability and whiteness. Neuropathologies were common in the 1920s in plants that manufactured leaded gasoline, which prompted workers in one New Jersey factory to christen it the “loony-bin building” and the “house of butterflies” (because of employees’ hallucinations of winged insects). Lead paints were widely used on interior walls, furniture, and children’s toys, causing poisoning through the ingestion or inhalation of cretinizing dusts.

Efforts to ban leaded gasoline began in the 1920s and succeeded in some countries, but the Ethyl Gasoline Corporation managed to convince short-sight-

ed politicians in the United States that smooth-running cars were worth the costs to health. Automobiles were a relative rarity in the 1920s, but by 1964 more than 200,000 tons of lead were being spewed into the air by cars and trucks. By this time, lead had found its way into everything from toy soldiers and toothpaste tubes to synthetic pearls and the pipes used for indoor plumbing. Markowitz and Rosner explain that many of the most injurious products were kept on the market long after they had been identified as harmful. Coordinated by the Lead Industries Association (founded in 1928), manufacturers mounted advertising campaigns to put a positive face on lead. Lead was deliberately marketed as child-friendly — by means of comic books and the pervasive Dutch Boy logo, which the authors suggest was a kind of metallic Joe Camel. In a remarkable advertisement reproduced in the book, the National Lead Company depicts a happy infant reaching for a can of evaporated or condensed milk, which is kept “pure” by the drop of lead solder used to seal the can.

Markowitz and Rosner write as medical historians, but their book could prove to be of legal interest, given that the industry, now facing lawsuits, has claimed that nothing was known about the chronic hazards associated with lead until 1943, when Randolph Byers and Elizabeth Lord documented such effects in an article in the *American Journal of Diseases of Children*. Using internal industry documents, Markowitz and Rosner show that the lead industry in the United States was well aware of the hazard decades before the publication of the article by Byers and Lord but chose to respond to it primarily as a public-relations problem. Several countries, including France, Belgium, Austria, Greece, Great Britain, Spain, and Cuba, either banned or restricted the use of lead paint for interior surfaces even before the First World War. But the U.S. lead industry campaigned effectively against such regulations, promoting lead not just as safe and patriotic but also as “an apparent gift of God,” in the words of the first vice-president of Ethyl Gasoline Corporation. Even after the possibility of harm was admitted, industry officials blamed parents for allowing their children to chew on the bars of their cribs or to suck on their fingers. A medical condition known as “pica” was invoked, as the industry attributed lead poisoning to an unnatural tendency of infants to put things in their mouths.

The evidence of hazards to workers in vinyl chloride plants, such as angiosarcoma of the liver, was

treated as a trade secret by manufacturers wanting to avoid “a public relations and legal nightmare,” write the authors. The authors also explain that in the late 1990s, the residents of Convent, Louisiana, who were overwhelmingly poor and black, organized to stop Shintech Corporation from building a \$700 million vinyl chloride plant by convincing the Environmental Protection Agency that the decision to build in Convent constituted environmental racism.

I learned a few surprising things. For example, computer monitors, on average, contain four pounds of lead. Lead was never an additive in paint (added as a tint, for instance) but rather was the pigment itself. (Lead paint is simply lead carbonate or lead oxide to which a flattening agent such as linseed oil has been added.) Lead chromate was once used to give a yellow color to bread and cakes. For more than 30 years, the Ethyl Corporation and General Motors monopolized the study of lead poisoning and provided overly optimistic estimates of how much of the metal the human body can safely withstand.

Markowitz and Rosner describe their own surprise at learning that such historical diseases as silicosis, which they thought was long dead, still exist today. Moreover, one should not forget that these are global maladies. Leaded gasoline is still used in many parts of the world, “sugar of lead” (lead acetate) is still used in Mexico as a medicine for stomach disorders, and food is still cooked in lead vessels in parts of India to give it a distinctive flavor. It may not be true, as some scholars once postulated, that lead consumption caused the fall of Rome, but it is true that poisonings are going to continue to occur throughout the world for decades, as peeling paint turns to dust, as leaded gas fuels cars, and as years of ignorance and industrial neglect take their toll.

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DRINKING WATER AND INFECTIOUS DISEASE: ESTABLISHING THE LINKS

Edited by Paul Raymond Hunter, Mike Waite, and Elettra Ronchi.
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(Copublished with IWA Publishing, London.) \$129.95.
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IN THE DEVELOPED COUNTRIES, IT IS A COMMONLY held belief that drinking water can be

kept clean and safe with minimal effort and cost and that waterborne infectious disease is well understood, controlled, and a problem of the past. The common view is that such problems are now confined to the developing world. *Drinking Water and Infectious Disease* counters this assumption with facts, and by the end of the book, the reader cannot deny the tenuous reality of our “safe-water” status.

This book is essential reading for those who advocate the reduced use of resources for the maintenance of U.S. sanitary and water utilities, public health testing, and surveillance on the grounds that we no longer have sufficient disease to warrant the expense. It is true that the most serious waterborne health problems occur in developing countries, where there are 2.2 million deaths per year from diarrheal disease, an average of 2.5 to 3.9 episodes of diarrhea per child per year, and a total disease burden second only to that of respiratory illness. Only the last chapter of this book addresses the challenges of conducting epidemiologic investigations in the developing world. The rest of the book focuses on the challenges still present in developed countries and argues that public health officials in these countries cannot afford to rest on their laurels or neglect any element that contributes to the elaborate web of health protection.

In 1993, despite the city’s compliance with all regulations, 400,000 citizens of Milwaukee were made ill by a waterborne outbreak of cryptosporidiosis. At the time, screening for cryptosporidium was not included in the relevant regulations. Although the Milwaukee episode was the most dramatic outbreak, the authors of the pertinent chapters make it clear that smaller outbreaks of cryptosporidiosis occur regularly and that endemic disease persists. The reader cannot avoid concluding that the challenges involved in controlling the transmission of cryptosporidium are present everywhere. Fittingly, the organism is one of the examples chosen for in-depth discussion in this book. Success at control is far from certain.

This book is the result of a joint effort of the Organization for Economic Cooperation and Development (OECD) and the World Health Organization, begun in 1996, to achieve a better understanding of the role of water in the transmission of infectious disease. A number of international workshops were organized to address different aspects of the problem, and several reports and books have resulted. In July 2000, the OECD convened a group of experts in the United Kingdom for a meeting with