

Asbestos and Fire: Technological Trade-offs and the Body at Risk. *By Rachel Maines*. New Brunswick, N.J.: Rutgers University Press, 2005. xiv + 254 pp. Illustrations, photographs, tables, appendix, notes, index. Cloth, \$34.95. ISBN: 0-8135-3575-1.

Reviewed by Dalit Baranoff

Nearly 1.5 billion pounds of asbestos were used in the United States in 1970. That same year, the annual fire death rate reached a new low of 3.3 per 100,000 people, an accomplishment achieved at least in part through the widespread use of asbestos fireproofing materials in public buildings. Yet as fire risk declined, the health risks associated with asbestos exposure became increasingly visible. Once hailed as a miracle product, asbestos was now denounced as a menace to public health.

According to author Rachel Maines, the very success of asbestos in reducing fire deaths led to a shift in its public perception. In recent years, she argues, almost all scholarship on asbestos has internalized the new view of asbestos as a menace, which, when inhaled, usually over a long period of time, can cause respiratory disease (asbestosis) or mesothelioma, a form of cancer.

Through the middle decades of the twentieth century, asbestos instead was seen as an answer to the widely recognized risk of rapid and numerous deaths by fire. Maines argues that even if the long-term health risks of the product had been known early on—as some scholars insist that it in fact was—society feared larger, more immediate risks more than uncertain, long-term ones.

Maines has set out to write a corrective, recalling the peril that asbestos helped to alleviate. In one chapter after another, she recounts the human toll of theater, school, and ship disasters that occurred from the late nineteenth century through the 1950s. Especially poignant are descriptions of fires at schools. Because they involved the loss of dozens or even hundreds of children at a time, these events did much to prompt new fire-safety regulations. Unfortunately, it took nearly five decades of school fires before adequate safety measures were widely adopted.

Having laid out the death toll, Maines goes on to explain how various asbestos products helped save thousands of lives. For example, in theaters, asbestos curtains positioned between the audience and stage could be quickly lowered to contain a fire on stage. Likewise, fireproof motion-picture projection booths could contain a fire spread by the highly combustible nitrocellulose film used through the 1930s. Asbestos shields placed under furnaces and stoves protected wooden floors, while asbestos roofs and ceiling tiles prevented the spread of fire.

The author is most successful when placing asbestos in historical context. Her most convincing argument is that asbestos was not only the best answer to the danger of fire, but often the only practical one available. Asbestos, which first saw widespread commercial use in the early twentieth century, was (and is) one of only a very few materials that will not spread flame under any circumstances, and the only one light and flexible enough for applications such as insulating pipes or retrofitting existing roofs. Consequently, its use was widely endorsed by fire-safety engineers, insurance underwriters, and public officials. The use of asbestos materials was written into model building codes and many city building codes.

Maines's secondary argument relates the problems of asbestos to a critique of the political economy of the United States. This succeeds less well. She contends that the lack of a universal health-care system in the United States has contributed to the high cost of asbestos litigation, which has crippled the industry. She argues that while all other industrial democracies treat asbestos-related disease as a "normal" risk, which society as a whole shares the cost of treating, this is not the case in the United States, where workers' compensation and the health-care system force those exposed to asbestos to seek compensation through the courts. The resulting litigation has cost over \$40 billion thus far, most of it spent on court costs rather than on health care for those affected. Other countries, Maines implies, are more enlightened when it comes to managing the tradeoffs between risks, and those Americans unfortunate enough to get sick are as much victims of our legal and health systems as of asbestos or the asbestos industry. This thesis is worthy of its own monograph. Maines does not provide enough comparative evidence for readers to judge.

The book tends to be weakest when Maines brings her argument into the present. A single chapter, "The Asbestos Tort Conflagration," only begins to explore the present-day controversy. The author states that only a cursory treatment is required, because the facts of "who knew what when about the risks of asbestos" have been exhaustively discussed elsewhere, but readers are unlikely to be familiar with the medical, public-policy, and legal literature that she refers to. We are left to rely on the author's assertions that, despite "conspiracy theories" to the contrary, asbestos risk was not widely recognized before the mid-1960s.

While Maines acknowledges the tragedy of asbestos-related disease, she clearly believes that the benefits of asbestos were (and still may be) worth it. As she states in her introduction, "more *children* died every year from fire, before we built the fire safety system that includes asbestos, than *adults* are now dying from asbestos-related diseases" (p. 12). At one point, she goes so far as to argue that some adults now suffering from asbestos-related diseases may have only survived to adulthood because their schools were protected from fire by asbestos products.

Thus, she claims, not only did society as a whole benefit from asbestos use, but *individuals* gained as well.

Maines further believes that the reduction in asbestos use and its removal from existing buildings may result in unintended consequences. She cites the rapid collapse of the World Trade Center towers on September 11, 2001, as one possible consequence of the shifting risk perception about asbestos. The twin towers were built just as the potential health effects of sprayed-on asbestos fire insulation were becoming a matter of public concern. As a result, much of the structural steel used in the towers was protected with materials less heat-resistant than asbestos. Maines speculates that asbestos insulation might have allowed the towers to stand longer and might have permitted more individuals to escape. She does not dwell on the other side of this counterfactual: the large volume of asbestos dust that would have been released into the air of New York City and northern New Jersey.

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