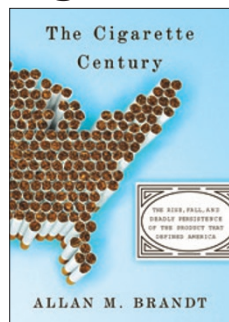


## Cigarettes: down but not out



### The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product That Defined America

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Reviewed by Henry A Lester

Why didn't scientists know that cigarettes cause cancer until the 1950s? Why did governments wait until 1964 to agree? Why was nicotine's addictive power not recognized until the 1980s? Allan Brandt, a medical historian, addresses these and other questions as he describes the interactions between cigarette smoking, biomedicine, public health and policy.

Over 600 pages, we learn that fewer deaths from infectious disease, plus decades of smoke-induced lung irritation, were necessary before large numbers of smokers lived long enough to develop lung cancer. Then, scientists used the emerging data to prove the causal link between smoking and cancer—and helped to found modern epidemiology.

The data linking smoking to disease became undeniable by about 1955. However, only in 1964 did the US surgeon general warn that cigarette smoking is harmful. That report also stated that nicotine is not addictive. Subsequent data, not summarized by Brandt, prompted the 1988 classification of nicotine as potentially addictive. (I note that nicotine actually presents a more serious relapse problem than other abused drugs, presumably because nicotinic receptors are widely expressed in the human brain and are regulated by chronic nicotine exposure.) But the key pronouncement may be the US Environmental Protection Agency's 1992 statement that environmental tobacco smoke is also harmful. This rendered smoking a public health issue.

Clean, disposable and mass-fabricated, the cigarette built on the same early-twentieth-century trends that gave us crew cuts and single-use packaging. In 1900, less than 20% of Americans smoked tobacco; 46% lit up during cigarettes' heyday in the 1950s. And the tobacco industry's mass-marketing campaigns recruited women and children to the ranks of smokers, built brand loyalty and served as the exemplar for other industries.

Surprising personalities aided the tobacco industry. The advertising genius Albert Lasker invented much of cigarette marketing and then refocused his efforts after a restaurant waiter forbade his wife Mary to smoke. This all predated modern knowledge of tobacco-related diseases, so one cannot retrospectively criticize the couple, who proceeded to endow the prestigious Lasker awards for biomedical research!

The hypomanic cancer geneticist C.C. Little, in Brandt's eyes, is a dif-

ferent story. Although he helped to found that crown jewel of biomedical research, the Jackson Labs, he also spent a decade of his later career as director of the pseudoscientific tobacco industry council that belittled the data linking smoking and cancer.

Brandt's book is also rich with characters more interested in making money than in recognizing the truth about cigarettes. He used internal documents from American tobacco manufacturers to show that, even in the 1960s, farsighted executives understood that science would eventually reveal the hazards of smoking, but they sought to extract maximal profits while they lasted. Protection from product liability lawsuits influenced many industry actions. For example, executives applauded the tobacco warning labels required since 1965 because these partially absolved the industry from further responsibility.

Too bad—a ruthlessly honest response by industry executives would have significantly accelerated the development of products that deliver nicotine without the toxins in tobacco smoke. A few companies tried smokeless cigarettes; but these became 'expensive failures'. To me, those lost sums represent a pittance devoted to developing safer products compared with the resources devoted to marketing, reformulating flavor and hyping ineffective filters. As Brandt reveals, filters become reassuringly brown after use not because they are trapping tar, but because they are designed to change colors through an irrelevant reaction with cigarette smoke—like an apple slice darkening as it oxidizes.

In two senses, Brandt has written a twentieth-century period piece. First, he clearly depicts the rise and fall of cigarettes, yet bemoans their "deadly persistence." Cigarette manufacturers have used every available legislative, legal and psychological technique to continue profiting from their product. Brandt would assert that this continued freedom, compared with the limited resources devoted to smoking cessation, explains how the smoking rate in America has remained at ~21%. But I note that up to one-half of cigarettes consumed in advanced societies are smoked by people with mental health diagnoses, who may perceive benefits—stress reduction, cognitive enhancement and weight control—from nicotine. In my opinion, 'sin taxes' will eventually stall out as engines for smoking reduction, because for many addicts, nicotine as an admittedly imperfect 'medication' is still worth the price.

Second, Brandt predicts that globalized smoking will take many more lives in the twenty-first century than it did in the twentieth. But he ignores the development of harm-reduction techniques that deliver a nicotine pulse more safely to addicts. For example, pasteurized snuff has reduced the prevalence of smoking in Sweden. Because nicotine itself has adverse effects on development, I disagree with the British Royal College of Physician's claim that it is "not especially hazardous." So although the removal of a harmful delivery system may not eliminate all tobacco-related diseases, new products will reduce their prevalence significantly.

Brandt concludes that the tobacco industry won't die. Therefore, in addition to providing a good yarn for us biomedical types, the book could encourage a new generation of tobacco executives to search for safer ways to deliver nicotine to nonpregnant, non-nursing adults—and only then turn their efforts toward engaging the marketers, lobbyists and lawyers.

#### COMPETING INTERESTS STATEMENT

The author declares competing financial interests: details accompany the full-text HTML version of the paper at [www.nature.com/naturemedicine/](http://www.nature.com/naturemedicine/).

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