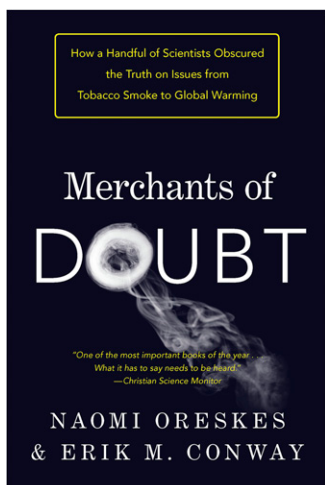


The Relentless Enemies of Science



Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues From Tobacco Smoke to Global Warming
By Naomi Oreskes and Erik M. Conway
New York, NY: Bloomsbury Press; 2010
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The best defense is a good offense. This is not Vince Lombardi from the Green Bay Packers or General Eisenhower speaking. It is the credo of a small band of ideologically driven scientists with strong political and corporate connections who for more than 40 years “deliberately distorted public debate, running effective campaigns to mislead the public and deny well established scientific knowledge” (p. 241) to undermine public health, the environment, and public faith in science.

They are the “merchants of doubt,” the central characters in the book first published in 2010 by Naomi Oreskes and Erik Conway. This is a masterful, highly engaging, yet chilling nonfictional thriller that exposes four decades of corporate malfeasance. In seven compelling chapters, the authors, doubling as forensic historians and artful storytellers, take us through the strategies and tactics these scientists used to undermine national and international responses to seven key areas of public health and the environment. These areas are harm of tobacco smoking, the Strategic Defense Initiative and nuclear arms proliferation, production of acid rain, depletion of the ozone layer, harm from secondhand smoke, anthropogenic climate change, and the use of DDT (dichlorodiphenyltrichloroethane).

THE ART OF WAR

In magnificent detail the authors reveal the relentless,

unethical, deceitful, cold-blooded, yet often highly innovative tactics these merchants have employed. But they are not simple merchants. They are the 20th- and 21st-century corporate equivalents of the generals in Sun Tzu’s *The Art of War*. Oreskes and Conway do not skimp on the evidence backing their arguments; five years of painstaking research fills 65 of the book’s 343 pages.

The authors highlight the essential issues at play: the role of the market, the role of government, and the role of regulation. “The issue was not free speech, it was free markets. It was the appropriate role of government in monitoring the market place. It was regulation” (p. 248). They further explain how science has shown consistently that governments do need to intervene in the market to protect the environment and public health, yet “the defenders of the free market refused to accept those results. The enemies of government regulation of the market place became the enemies of science” (p. 262).

BATTLE TACTICS

The merchandising of doubt has become their central strategy to

forestall legislation, regulation, and litigation. Exposed and threaded through each of the chapters are six recurring and interrelated tactical themes the merchant-generals have developed over the past 40 years to undermine science in the name of their battle against regulation.

These tactics are attacking legitimate science and funding, what we could now call “alternative” science; attacking the scientists; creating front groups; manufacturing false debate and insisting on balance; framing the issue in a highly creative way; and creating lavishly funded industry disinformation campaigns.

The science comes under attack by the merchants of doubt claiming that there is not enough proof to justify regulation, and thus there is insufficient evidence to act; insisting the science is uncertain or is junk science; emphasizing true but irrelevant facts; cherry-picking facts out of context; or claiming the science is being manipulated to fulfill a political agenda. The doubt is repeated as often and loudly as possible using what the industry calls “message force multipliers” (p. 243): expert witnesses in the pay of the industries they represent. Another tactic is to use pejorative terminology repeatedly: “excessive regulation,” “overregulation,”

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“unnecessary red tape,” “the nanny state.”

Character assassination and intimidation of scientists has become a staple strategy. Ulterior motives are alleged, and groups and individuals smeared. Examples cited include the cases of Ben Santer from the Intergovernmental Panel on Climate Change and Rachel Carson, who worked so effectively to expose the dangers of DDT. A classic tactic has been the naming of environmentalists as watermelons (green on the outside and red on the inside) to transfer the hate and fear of communism to the environmental movement.

Another approach the authors repeatedly cite is the creation of front organizations, which are kept at arm’s length from the industries involved. In these cases, funding can be provided via prestigious public relations agencies (e.g., Hill and Knowlton) and legal firms (to avoid scrutiny because of attorney–client privilege). Through these organizations, “alternative” science is generated via the establishment of research institutes to carry out or sponsor research, conferences, workshops, and so-called independent newsletters, reports, and journals (never peer reviewed, of course). In this reviewer’s opinion, the authors uncover a pervasive form of information laundering. This is where alternative science is “cleansed,” just as money is, “to create the appearance that the claims being promoted were scientific” (p. 244).

MANUFACTURING CONTROVERSIES

As Oreskes and Conway demonstrate, an essential ploy of these merchants in creating doubt is to manufacture debate in a way that gives rise to the impression of

controversy. The book characterizes the typical debate manufacturer as “superannuated, disgruntled, a habitual contrarian, or in the pay of a group with an obvious ideological agenda or vested political or economic interest. Or in some cases, all of the above” (p. 273). The tobacco, energy, arms, and chemical industries work to make sure debate is kept alive by developing false dichotomies. Once established, they insist that the media cover both sides of the debate with balance. This is justified using the so-called fairness doctrine, even though, as we know with climate change, the number countering what is now accepted scientific fact is very small indeed.

Over many years the corporate players and their scientific generals have used myriad highly creative framing techniques. These include insisting that the problem is very complex and so cannot have a simple solution; insisting it is premature to suggest remedies; assuring the public that technological advances will obviate the need for regulation; claiming that the marketplace is the only way to solve the problem; diminishing the perceived severity of the problems (e.g., “it’s a serious problem, but not a life threatening one” p. 88); implying the solution is too costly or disproportionate to the size of the problem (e.g., “it’s a billion dollar solution to a million dollar problem” p. 101); insisting other problems are more important; and, finally, insisting that the benefits of the problem have not been explored.

Holding all these approaches together are industry-funded disinformation campaigns (again run through arm’s length front organizations) using co-opted and paid expert witnesses and celebrities as well as sponsored

conferences to challenge scientific consensus.

ILLUMINATING DISCUSSIONS

As they take us through these intriguing and discomfiting stories, Oreskes and Conway provide illuminating discussions on the nature of science; the role of uncertainty, evidence, peer review, and the consensus of experts; the role of scientific institutions and academics and informative short expositions on the economic positives of regulation; the role of market failure; the origin of the fairness doctrine; the power of fear to drive nonsensical policies; and the influence of economists who simply do not believe in prevention.

Over the past months, George Orwell’s *1984* and Margaret Atwood’s *The Handmaid’s Tale* have shot to the top of bestseller lists. It will be welcome news if *Merchants of Doubt* experiences the same rise in sales.

Oreskes and Conway focus much of their book on this small band of contrarian but highly energetic scientists, demonstrating that “small numbers of people can have large, negative impacts, especially if they are organized, determined, and have access to power” (p. 213). This insight is a disturbing obverse to the famous phrase attributed to Margaret Mead: “Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.” For the sake of the planetary and public health, this book will greatly help to ensure that the latter group prevails. **AJPH**

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