



**Naomi Oreskes** is a professor of the history of science at Harvard University. She is author of *Why Trust Science?* (Princeton University Press, 2019) and co-author of *Discerning Experts* (University of Chicago, 2019).

# Let Them Eat Meat?

When journals behave irresponsibly, it can cause real harm

By Naomi Oreskes

**Last October** the Physicians Committee for Responsible Medicine, a nonprofit with 12,000 doctor members, asked Philadelphia's Office of the District Attorney to launch a reckless-endangerment investigation. The trigger for this extraordinary request was not a new attempt by the tobacco industry to sell cigarettes to children or by the petroleum industry to reintroduce lead into gasoline. It was a set of papers and proposed dietary guidelines, published in the *Annals of Internal Medicine*, suggesting it's fine for Americans to continue eating a diet rich in red and processed meats.

The guidelines set off a media frenzy, with dramatic headlines suggesting that conventional nutritional wisdom had been overturned. This response produced a counterreaction, with various experts and public health organizations slamming the guidelines. Walter Willett, a Harvard professor of epidemiology and nutrition, called them “the most egregious abuse of data I've ever seen.”

Critics pointed out numerous flaws with the *Annals* publications. Most conspicuously, the authors had used a review methodology that valorizes randomized clinical trials (RCTs). But it is famously difficult to do RCTs for nutrition, so by choosing this

particular assessment tool, the investigators excluded most of the benchmark studies on red meat and health. And we soon learned that some of them had undisclosed ties to the food industry. In particular, the lead author was senior author on a similar study in 2016 that challenged the advice to eat less sugar. That paper, which also appeared in the *Annals of Internal Medicine*, was paid for by the International Life Sciences Institute, an industry group founded by a Coca-Cola executive and notorious for its repeated attempts to challenge international health guidelines.

More to the point, the “red meat is fine” message flies in the face of a large and well-established body of evidence from epidemiological cohort studies, randomized trials with established risk factors as outcomes and animal studies. People (and lab animals) whose diets are high in red and processed meats are more likely to suffer and die from type 2 diabetes, cardiovascular disease, respiratory ailments, neurodegenerative diseases and cancer than those whose diets are less meat-laden. One study of tens of thousands of men and women followed for an average of 26 years showed that every extra daily serving of red meat was associated with a 13 percent higher risk of death from all causes. Eating processed red meat increased that number to 20 percent. Given what the literature has shown about meat, more than a dozen experts asked the *Annals* to retract the papers. Some suggested they should never have been published in the first place.

If science is to be open to new evidence and ideas, sometimes bad or even reckless studies will be published. But the *Annals* did two troubling things. First, it did not just publish a set of research papers on nutrition; it published a set of *guidelines*. Moreover, the authors said, “We suggest continuing current unprocessed red meat consumption (weak recommendation, low-certainty evidence)... [And] we suggest continuing current processed meat consumption (weak recommendation, low-certainty evidence).”

This is astonishing: a group of scientists, critiquing existing nutritional studies for their (alleged) lack of methodological rigor, offered radically contrary and potentially dangerous guidance based on low-certainty evidence! Further, the *Annals* did not simply *publish* the guidelines. It *promoted* them with an accompanying editorial and a press package that began with an unqualified headline—“No need to reduce red or processed meat consumption for good health”—and ended with a statement that, within 24 hours, had been credibly challenged: “Those that seek to dispute the ... findings will be hard-pressed finding appropriate evidence with which to build an argument.”

We live in a world where industries exaggerate scientific uncertainty and promote outlier views as a means to defend dangerous products and activities. In this context, it behooves journals to exercise caution when publishing controversial findings and not to take sides. There is enough sound and fury in the popular press to confuse us all. The last thing we need is for scientific journals to contribute to the cacophony. ■

#### JOIN THE CONVERSATION ONLINE

Visit *Scientific American* on Facebook and Twitter or send a letter to the editor: [editors@sciam.com](mailto:editors@sciam.com)

