

Profile

Naomi Oreskes: understanding the denial of science



Social responses to anthropogenic climate change and the role of science in society are key concerns for Naomi Oreskes, Henry Charles Lea Professor of the History of Science and Affiliated Professor of Earth and Planetary Sciences at Harvard University, Cambridge, MA, USA. In her academic work and writing, Oreskes has explored how, and why, established scientific knowledge has become subject to vehement denial. In her 2010 book *Merchants of Doubt*, Oreskes and coauthor Erik M Conway showed that, for example, “climate change denial had nothing to do with flaws in the science, and had everything to do with market fundamentalism, political commitments to free market politics, and hostility to government action in the marketplace”, she explains.

Science denialism during the COVID-19 pandemic has been “a really serious problem”, Oreskes says. “I think we are noticing it because it is so present and so immediate—many of these other things have been on a kind of slow burn. There are people who died who didn’t have to die. And who, if they had been willing to follow scientific advice or if they had been encouraged to follow scientific advice, could be alive today... Trust in science has actually become a matter of life and death.” Yet she notes, “Overall trust in science as an activity... remains quite high... But that said, we have definite subsectors of the population who have rejected science in important areas with big consequences for public health.” She highlights how “The basic framework is the phenomenon of deliberate fomenting of distrust for political, ideological, and economic reasons. This is hugely important for scientists to understand. If we don’t actually understand, analyse, and work with these social factors, we won’t achieve the results that we want.”

Originally a professional geologist, Oreskes started university in the USA, but says she became “bored and restless, so I wanted to travel overseas”. She took her first degree in geology in the UK at Imperial College London, where she developed interests in topics wider than the core scientific subjects she was being taught, relating to issues of science and society. “I was always asking these questions that somehow you weren’t supposed to ask”, she recalls. After working as a geologist in industry in Australia, she returned to the USA intending to do postgraduate studies in geology at Stanford University. There, she recalls, she took “a class in the philosophy of science, which I did just for fun, and that was my eureka moment. I discovered that there was a field called history of science that tried to answer the questions that had always perplexed me”. Oreskes taught at the University of California San Diego before her role at Harvard. Although she still does some work in Earth and environmental sciences, she is “mostly interested in philosophy of science”, and in understanding the kind of scientific consensus and dissent that has posed such a threat to public health around COVID-19 and other areas.

What lies behind such resistance, Oreskes has found, is a complicated space to navigate. “Social phenomena are always complex”, she says. “It’s never just one thing. You find some people who haven’t been vaccinated because they can’t get a day off work. Or they’re afraid that if they get sick from the vaccine they won’t be able to go to work and they won’t get paid for sick-leave. In the US, the data show a strong association between being unvaccinated and lacking health insurance, even though vaccination is free, even for the uninsured. So that’s telling us that there’s a population of people who are alienated from the health system, probably not getting good information, so they go on the internet, they go to social media, and that then is where the disinformation campaigns can get traction... When it comes to vaccinations, we know there’s a long history of people being nervous because you’re putting foreign substances into your body. It taps into deep psychological beliefs about bodily sanctity and purity.”

Oreskes’ research has cast a light on how these personal beliefs or issues then grow in scale. “What we’ve seen is that individual reticence becomes a social phenomenon when anxiety is fostered. The flames of anxiety are fanned on social media by organisations who have a vested interest in fomenting anti-government ideology. What we know from our and others’ research is that the tobacco industry organised a campaign over decades to foment distrust in science. Because it was science that proved that using tobacco products kills people. And it was the science that led governments and other organisations to move towards regulating tobacco... And in order to prevent governments from doing that, the tobacco industry developed a strategy of fighting the science.”

Oreskes is now working on a new book, *The Big Myth*, which she describes as “sort of a prequel to *Merchants of Doubt*” that goes beyond anthropogenic climate change. Oreskes and Conway wanted to delve more deeply into the motivation for science denialism, specifically, she says, to understand “why so many otherwise intelligent people embrace anti-scientific positions even when there is so much evidence against them”. As a scholar whose “life has been dedicated to understanding and explaining science”, she points out that it has been a frustration that scientific and medical fields have not given routine consideration to vitally important, broader contexts. “I feel that, until quite recently, the science community has not really taken this seriously. COVID-19 has been a wake-up call. Until recently, most scientists didn’t pay attention to science denial, they saw it as a sort of a side-show, a distraction, as opposed to what it really was: something that was building up to creating a major crisis for public health. And with climate change, building up to a global crisis of planetary proportions.”

Aarathi Prasad



Claudio Cambion