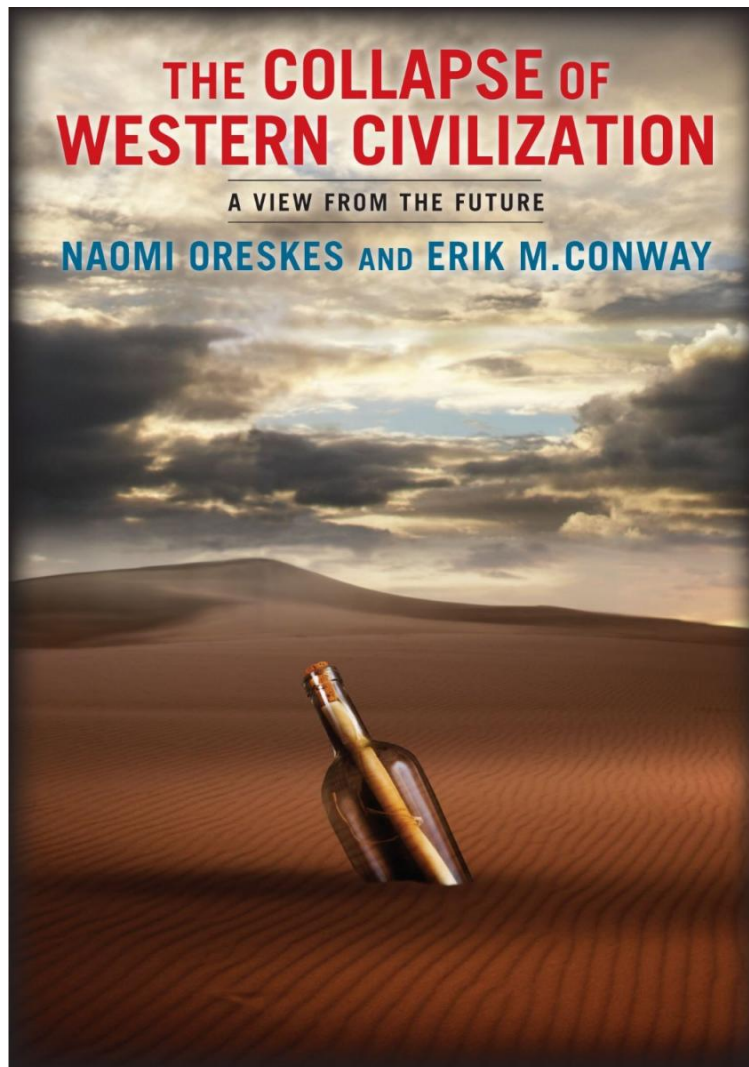


End Times: Oreskes and Conway's Collapse of Western Civilization

By Steven Newton



Historians of science Naomi Oreskes and Erik Conway, authors of *Merchants of Doubt*, have written a new book as ambitious as it is concise. *The Collapse of Western Civilization: A View from the Future* is told from the perspective of a Chinese historian several centuries in the future, looking back at our current time and attempting to explain to readers the irrationality of our behavior. In the manner of Margaret Atwood's classic *The Handmaid's Tale*—a novel that explores a future world overrun with religious fundamentalism—*Collapse* uses fiction to deliver serious, thought-provoking insight that should spark much discussion.

But is it even possible to write a history of the future? In a way, historians are always using the past as commentary on the present and a warning for the future; Gibbon's *The Decline and Fall of the Roman Empire*, and his analysis of the failures of empire, can be read as being more than strictly about Rome. Oreskes and Conway's book contains potent, thoughtful analysis of not just how people have gone so astray, but why so many people are unable to accept facts about anthropogenic climate change that will, in the histories

yet to be written, seem crystal clear.

One of the major points Oreskes and Conway make is the impotence of science in our political process. They write:

The people of Western civilization knew what was happening to them but were unable to stop it. Indeed, the most startling aspect of this story is just how much these people knew, and how unable they were to act upon what they knew. Knowledge did not translate into power.

Oreskes and Conway's future historian laments,

To the historian studying this tragic period of human history, the most astounding fact is that the victims knew what was happening and why...Western civilization had the technological know-how and capability to effect an orderly transition to renewable energy, yet the available technologies were not implemented in time.

Oreskes and Conway see this as a failure of Enlightenment ideals and the assumption that if "one could gather reliable knowledge," then "this knowledge would empower its holder."

Scientific knowledge rarely translates into political power. Indeed, as philosopher Michel Foucault frequently argued, in human affairs it is power that shapes knowledge, rather than the other way around. Foucault wrote,

The history which bears and determines us has the form of a war rather than that of a language: relations of power, not relations of meaning.

In other words, Foucault posits that we can argue all we want about meaning and the "truth," but when humans interact with each other, what matters is not who is right but who has more power. As Mao cynically noted, all political power ultimately comes from the barrel of a gun, and the correctness of one's scientific research seems irrelevant when faced with a violent thug. Oreskes and Conway follow up this idea by focusing much blame on the failure of scientists to translate their findings into meaningful political action.

Oreskes and Conway criticize the way scientists are trained, in narrow silos of information, interacting poorly with scientists in other disciplines. This compartmentalization of the scientific enterprise incapacitates scientists with territorial feuds that enforce myopic thinking.

Though we suffer now from an artificial constraint on talent and ideas—novelists generally don't publish poetry, poets aren't expected to write symphonies, composers don't often do geology—it doesn't have to be this way. In fact, the great minds of Western civilization have usually been polymaths. Michelangelo created masterpieces not only in marble, but in

oil and fresco and architecture. Leonardo did not confine his genius to painting, but also to science and engineering. People associate Einstein with relativity, but don't realize that he also made revolutionary discoveries in other areas of physics, explaining Brownian movement and the photoelectric effect.

Yet today, the assumption is that one can be an expert only in one narrow slice of one discipline. This is a problem, Oreskes and Conway contend, when it comes to climate science, which draws upon so many disciplines--chemistry, physics, geology, oceanography, biology, and so on—to build a deeply integrated picture of the planet. Oreskes and Conway write:

Reductionism also made it difficult for scientists to articulate the threat posed by climactic change, since many experts did not actually know very much about aspects of the problem beyond their expertise.

and

Even scientists who had a broad view of climate change often felt it would be inappropriate for them to articulate it, because that would require them to speak beyond their expertise.

and

The scientists who best understood the problem were hamstrung by their own cultural practices, which demanded an excessively stringent standard for accepting claims of any kind—even those involving imminent threats.

A major target for Oreskes and Conway is the standard 95 percent confidence interval, a statistical norm they describe as “hard to fathom” and “a high hurdle against one specific kind of error.” I confess that although the 95% CI had been drilled into me as a science student in so many different ways, I never really questioned why. It may be that there is no good reason, that an 80% confidence interval would in practice work just as well. Oreskes and Conway write:

We have come to understand the 95 percent confidence limit as a social convention rooted in scientists' desire to demonstrate their disciplinary severity.

One wonders, if 95% is good, why is 99.99% not even better? Well, at such a confidence interval, few results would pass muster and it would difficult to publish. Is then 80% too low? Wouldn't it make sense to have a low threshold, if the consequences of being wrong—of not acting on climate because of uncertainty—were so terrible? Dick Cheney supposedly operated as vice president by what he called the “[one percent doctrine](#),” meaning that if there were even a 1% chance of an attack on America happening, he would operate

as if it were 100% certain to occur. All this is food for thought as scientists work through the details of the most serious threat facing humanity since the Cold War.

Oreskes and Conway then lay into the magical thinking of what they term “free market fundamentalism,” the idea that individual liberty can only exist if all economic decisions are left to the invisible hand of the market, with as little government intervention as possible. Oreskes and Conway nicely identify roots of this in the American reaction against communism, and then demonstrate how this reaction has been misapplied to environmental issues.

The syllogism works like this: communism is evil, communism thwarts free markets, therefore any climate regulation that thwarts free markets is also evil. In an interview in an appendix of *The Collapse of Western Civilization*, Oreskes expressed the free market fundamentalist anxiety this way: “Today we control greenhouse gas emissions, tomorrow we give up the Bill of Rights.” Oreskes and Conway show how this hyperbole goes too far, and how even one of the major icons of free market fundamentalism, Friedrich von Hayek, saw the necessity for government intervention in environmental matters. Modern Tea Partiers are not quite so reasonable.

The collapse of the Soviet Union led to triumphal boasting in the West about our superior political economy. Francis Fukuyama went so far in his 1992 book *The End of History and the Last Man* to declare, in an amazingly premature blunder, the final triumph of liberal democracy. (Go tell ISIS in Iraq how liberal democracy is sweeping the world.)

But just as creationists think they can prove their ideas right by proving evolution to be wrong, free market fundamentalists make the mistake of assuming that because communist command economies cannot function, unrestricted capitalism therefore works well. As we’ve seen since 2008, when the US fell into what former Secretary of the Treasury Tim Geithner calls an “[economic black hole](#),” systemic collapse, widespread suffering, and misanthropic viciousness are hardly exclusive to command economies. The truth may be that no system functions well.

Oreskes and Conway observe:

Western civilization, in which denial and self-deception, rooted in an ideological fixation on ‘free’ markets, disabled the world’s most powerful nations in the face of tragedy.

Let’s hope Oreskes and Conway’s thought-provoking book contributes to making scientists more capable to act on what

we already know, and makes the looming tragedy they so well describe a little less likely to happen.