

## Science Friction

**B**EST-SELLING AUTHOR MICHAEL CRICHTON '69 RECENTLY published a new novel, *State of Fear*, in which a brilliant MIT professor and a beautiful lawyer uncover a plot by environmental terrorists who have unleashed a series of catastrophic, seemingly natural events to call attention to the dangers of global warming. Woven into this story are unscrupulous scientists who doctor data to obtain more money and assorted well-meaning, impressionable people who start out believing that the threat of global warming is real, but who eventually see the light when confronted by the professor's compelling arguments. Were it left at that, *State of Fear* would be just another thriller.

But instead Crichton, under the guise of a novel, presents a broad-based attack on the environmental movement, complete with graphs and references. As a work of science, the book is deeply flawed on many levels. For one, Crichton ignores most of the peer-reviewed literature on climate change, and many of his statements lack substantiation. His logic is also faulty. He writes in an appendix, for example, that just as prominent scientists of

Third, and most important, is the issue of what's at stake. During medical school, we learned that if evidence of great harm to a patient was compelling enough, we had to intervene, even before all the tests were in. The classic example of this "precautionary principle," so fundamental to clinical medicine, is appendicitis, where despite a convincing history and supporting physical exam, lab tests, and x-rays, it's sometimes still impossible to say with certainty that the patient has appendicitis. Surgeons must operate. They can't afford to wait for absolute proof, for doing so might mean a ruptured appendix, peritonitis, and fatal septicemia. They can't risk being wrong.

Such is also the case with global warming, but here we're dealing with the lives of billions of people. The evidence is overwhelming that the carbon dioxide we're releasing in ever increasing amounts into the atmosphere, where it lasts more than a hundred years, is the main reason that global temperatures are climbing, ice sheets are melting, sea levels are rising, extreme weather events such as heat waves are increasing in number and intensity, ecosystems are threatened, and patterns of infectious



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the early twentieth century advocated eugenics, a notion later discounted, the science of global climate change, supported by the leading scientists of our time, will end up discredited as well.

It is hard to take Crichton's anti-environmental arguments seriously. But, as he is a Hollywood icon whose Harvard degrees give him credibility, and as his viewpoints are increasingly quoted by those seeking to discredit climate change science, such as James Inhofe, a Republican senator from Oklahoma who has called global warming "the greatest hoax ever perpetrated on mankind," take him seriously we must.

I will limit myself to three points about Crichton and his book. First, he seems to contend that those who express alarm about the consequences of environmental degradation are driven primarily by power and greed, rather than by a deep concern for life on this small planet. Given how politically powerless environmental groups seem to be these days, especially about global warming, and the pathetic under-funding of environmental research, such a claim is laughable.

Second, though Crichton has no background in the field, he seemed convinced that after three years of study, he understands global climate change in ways that have somehow eluded thousands of the world's top experts.

diseases are changing. If we don't take these observed events seriously and act now to lessen their growing impacts, if we wait until we have 100-percent proof of where they're heading, we may be too late to avoid public health catastrophes in coming decades.

Crichton's assessment that we know "astonishingly little" about the global environment should make him humbler and far more cautious. Shouldn't we be doing everything possible to avoid disrupting the planet's physical, chemical, and biological systems on which all life depends, especially when we don't fully understand them? If we're guessing, as Crichton and some in Washington seem to be doing, that the dangers of altering these systems are minimal, can we risk being wrong?

Great celebrity carries with it great responsibility. Michael Crichton had the opportunity to reach large numbers of people with a careful evaluation of the science of global warming and to educate them about its enormous potential dangers. Instead, his book is misleading and irresponsible, and it would be a tragedy if it were considered to be anything other than fiction. ■

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