Like Minds

The Denial of Science: We're in Hot Water

By Jamie Katz '72, BUS'80

Scientific research demands a detached, disciplined search for truth, however inconvenient. For many years now, the overwhelming consensus of serious scientists has held that accelerating climate change, driven by human activity, portends potentially catastrophic consequences. Yet for the first three years of his tenure, President Trump has dismissed that consensus, proclaiming global warming a "hoax," a "big scam" and "a make-believe problem." What's more, the administration has actively moved to thwart the research and counsel of scientists, and bury information that challenges the Trump administration's policies and priorities.

Columbia's Sabin Center for Climate Change Law has documented hundreds of instances of the denial of science, suppression of research and silencing of experts. These actions hit close to home at Columbia, where scientists like the late Wallace Broecker '53, GSAS'58 conducted pioneering research on climate change, a field that now engages students, their teachers and researchers across the arts and sciences and professional schools.

CCT recently sat down for a conversation with two concerned alumni and faculty: **Michael B. Gerrard '72,** the Andrew Sabin Professor of Professional Practice at the Law School, a former faculty chair of the University's Earth Institute and one of the preeminent environmental attorneys in the United States, and Professor of Biological Sciences **Robert E. Pollack '61**, a former dean of the College whose involvement crosses all boundaries. For many years Pollack directed the Center for the Study of Science and Religion, within the Earth Institute; he is now on sabbatical as director of the University Seminars.

Following are edited excerpts of our discussion.

Columbia College Today: *Your alarm bells must be clanging. I'm wondering if either of you have encountered science denial or resistance to empirical reality in your professional work. Mike, has there been a court case like the 1925 Scopes monkey trial in which basic science has been contested?*

Michael B. Gerrard ’72

Michael Gerrard: Well, I am frequently questioned in public presentations about how certain we are that human activities are causing serious climate change. And this comes from otherwise sophisticated people who get their information from wildly misleading editorials in *The Wall Street Journal* and other purportedly respectable outlets that peddle really unscientific nonsense. That denial of the origins of climate change has very significant implications for governmental policy and corporate policy, and is one major reason we are in the awful fix we’re in.

Robert E. Pollack ’61

Robert Pollack: I think, Jamie, that your question is so limited in its anxiety that it doesn’t really reflect the burden that we face — which is the possibility that, just like organisms and like species, societies and cultures are mortal, and that we are in the closing days of what we have celebrated for 250-plus years. The glow seems to be for strong leaders, and those leaders are strong by having the acquiescence of plenty of people, without force, [who are willing] to believe what they hear from the strong leader as against the evidence of their own senses, let alone the data of science.

Gerrard: Circling back for a moment to your original question about court cases, there has only been one actual trial with live witnesses contesting climate science. It was in 2007 in a federal courtroom in Vermont, where auto dealers questioned Vermont's actions in regulating emissions from cars. Scientists were heard from both sides. The judge believed the climate scientists and ruled for the state. There was one other important lawsuit where climate science was contested. That was when the EPA in 2009 issued its formal finding that greenhouse gases pose a danger to public health and welfare. Industry and some anti-climate regulation states challenged in the U.S. Court of Appeals for the District of Columbia. The court resoundingly rejected those challenges and found that the EPA had overwhelming evidence of the dangers of greenhouse gases.

There has never been a court decision in the United States, or, insofar as I know, in the world, where a judge has cast serious doubt on climate science. Courtrooms are where the truth can come out and lies can be exposed. That is not so much the case in many legislative and media forums.

Pollack: Mike, I envy your location in this conversation because you're in a better position than I am as a scientist to act upon what the science says. When an experiment shows that we were right in our idea, we are stuck with what science says. No scientist I know celebrates their smartness in the discovery of how serious global warming is. I knew Wally Broecker for decades, and I know many people in this field. They're all worried, upset and frustrated that they cannot convey to a larger population clearly that it's not their *opinion*.

Gerrard: We shouldn't overstate the value of law here or at least the power of judges. In recent years, with the abdication of responsibility over saving the planet, many people have turned to the courts as the silver bullet. But the courts have very limited power to make their own rules in the absence of either explicit statutory authorization or constitutional principles. The courts have not recognized a right in the U.S. constitution to a clean environment, although that is being ferociously litigated right now in one prominent case.

CCT: *What is that case*?

Gerrard: It's *Juliana v. United States,* brought by 21 young people — one of whom is Alex Loznak '19 — seeking a court order that the federal government devise and implement a plan to drastically reduce greenhouse gas emissions. A trial court in Oregon found there might be a constitutional right or a constitutional obligation by the federal government to do that. The Ninth Circuit Court of Appeals dismissed the lawsuit in January — all three judges agreed that climate change presents a huge crisis that demands immediate action, but the two judges in the majority said that's up to the political branches, not the courts. The dissenting judge said that the Constitution demands judicial action if the politicians are failing us. The plaintiffs' lawyers have said they will now seek a rehearing before the 30 active judges in the Ninth Circuit.

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CCT: *More broadly, you have spearheaded efforts to track the specific ways in which science has been suppressed or sidelined in the federal government.*

Gerrard: On the first anniversary of Trump's inauguration, the Sabin Center launched the website Silencing Science Tracker, which tries to keep tabs on the efforts by the federal government to squelch or deny science. We now have nearly 400 entries. There are many examples where the Trump administration has fired or suppressed real scientists and brought in people who either utterly lack scientific credentials or have credentials that are irrelevant to what they're opining about, or are on the fringe of scientific opinion on these issues. It's pervasive throughout the executive branch.

CCT: *Are you finding that the students you teach are considerably more agitated by these issues than the generation of their parents and teachers?*

Pollack: Interestingly, the students who find me, who create projects, who brilliantly enter the scientific world as undergraduates with the help of me and my colleagues, are quite often the ones who are the first in their family to even attend college, as opposed to those with more of a sense of entitlement. So my answer is that we are not escaping the increased polarity between the people who have too much and the people who have not enough. We are doing a great deal of fundraising to continue to make it possible for these students to be at Columbia, and it's critical that we succeed. But Columbia could still do more to say that we are a base for understanding the politics and the science. We owe it to the world to do more to bring, to teach and to change.

CCT: *Mike, how about you? Are you finding that more law students are bending in your direction in response to the urgency of this crisis?*

Gerrard: Every year I have a cohort of students who have a particular environmental interest. In the last two years I've seen an upswing in the size of that group, I think largely reacting both to Trump's election and to the increasing gravity of what we know about climate change. So we do have quite a few students who have that major interest.

CCT: *I think many of us are hoping to find salvation in the combined power of science and technology, education and raised awareness, and at some point, political will.*

Gerrard: Science might still save us, and I hope it will. But we can't count on it. I'm hearing an increasing numbers of voices say, let's devote all of our attention to technological innovation. But that is often an excuse not to take current action or to regulate or price current emissions. Those R&D expenditures are extremely important, but it's reckless to count on them to solve the problem.

Pollack: I'm so glad you said that, because you give me the space to say there is something else we can do, which is recovering, celebrating, validating, lifting up that aspect of a human being that is not intelligence, but emotion — recognizing our emotional interrelationship, our emotional need for other people and other people's emotional need for us, connecting to other people so that it is not a matter of what we know or what we do, but how everybody survives or everybody doesn't.

I think the metaphor of a lifeboat is where we are now on the planet. There is no captain of a lifeboat. And there is no second lifeboat to jump into if the first lifeboat sinks. On a lifeboat, you become socialized to the other people, for better or worse, very quickly. We're stuck with each other. And our structures of teaching, as well as of research, are not in any way or on any level acknowledging that. We measure each other by our utility, not by our obligation.

CCT: *What are the most consequential moves you want to see governments making right now? And a corollary question: Do individual acts like cutting back on air travel or hundreds of other comparatively small choices really make a dent in the problem? Or is it more a matter of political will and industrial-level solutions?*

Gerrard: I'd say all of the above. The most important thing that government could do would be to impose a price on carbon.

Pollack: Well said. Agreed.

Gerrard: This could be through a carbon tax or a cap-and-trade mechanism or something else to end the ability of industry to dump unlimited amounts of carbon into the atmosphere for free. However, personal choices do make a difference. What we drive, what we eat, how we heat and cool our homes and to what degree — all of these are important personal decisions. But on a macro basis, a price on carbon is by far the most important action.

CCT: *In broadest terms, where do you see us heading?*

Gerrard: Scientists have known about the peril of climate change since the 1970s. Had we acted seriously then, we would have been able to be on a gradual glide path to prevent catastrophe. The denial of science was a major factor in impeding government action. We're now at a point where avoiding calamity will be extremely difficult, and will require considerable disruption. But even now there is a great deal that can be done to prevent the situation from becoming even worse. Doing that will require great political change and an enthusiastic embrace of the science that is now in our possession and the development of even more science.

Pollack: I will take what you said and give my version of that, not by disagreement, but by confirmation. In the same period since the '70s, we have been able to look with greater and greater efficiency for evidence of life on other planets surrounding other stars in our galaxy, using ever-greater sensitivity of detection from satellites in particular. And we have found that Earth-like planets are apparently very common.

There are of course, what, 10-to-the-10th-power stars in one galaxy, and 10-to-the-10th galaxies. And our planet has had life on it for four billion years. So you might expect that life is a very common aspect of the universe — it follows the second law of thermodynamics. So the question is, why, as we keep discovering more and more planets elsewhere, do we not discover any evidence suggesting intelligence anyplace else? I don't have an answer. But an answer that fits the data so far is that life might be common in the universe, but intelligent life might be lethal.

And so when intelligence emerges, you get a couple of hundred or maybe even a thousand years of electromagnetic radiation representing radio, television and the web, and then self-destruction back to smaller forms of life without intelligence. That's a very depressing and negative answer to your question. Natural selection works brilliantly to produce novelty; the novelty that yields intelligence is self-destructive. It doesn't work.

What we have to save us is exactly what Mike said — the intelligence to know that, to acknowledge it and then to act accordingly. But according acts would then be radically different from anything we do now, and not incremental. And I don't know how to bring that about. So that's, in my humble opinion, my summary.