

Editorial

The Record of Our “Scientist-in-Chief”

At a recent press conference proposing the launch of a federally funded brain-mapping initiative, President Barack Obama embraced the title of “scientist-in-chief” bestowed on him in an introduction by Francis Collins, director of the National Institutes of Health. “Given my grades in physics, I’m not sure [I’m] deserving,” said the president—before going on to note that “I hold science in proper esteem, so maybe that gives me a little credit.” This was an echo of his inaugural promise to “restore science to its rightful place.” Four years into his administration, with another four years to go, we are now well positioned to revisit that promise—to reconsider its meaning and to see whether the scientist-in-chief has lived up to the pledge even on its own terms.

Politicians, journalists, and academics regularly throw around the terms “pro-science” and “anti-science” to denigrate their opponents and to advance their own views. This rhetoric is often effective because the American people hold science and scientists in great regard: for decades, surveys show, Americans have had more confidence in the leadership of the scientific and medical communities than in that of lawmakers, organized religion, the press, and most other institutions. So posing as a defender of science and attacking its supposed enemies is an easy way to score political points; the president’s inaugural promise is an instance of this political strategy, as we noted in these pages four years ago.

Americans’ high esteem for the scientific enterprise is rooted in our gratitude for the advances in medicine and technology that it makes possible, as well as for the insights into the wonders of nature—from the structure of the atom to the history of the cosmos—that science alone can reveal. Unfortunately, the good standing of science is all too often abused by those who invoke its authority as a way to shut down policy debates. The usefulness of new technologies and the promise of new medical treatments are routinely exaggerated to deflect needed consideration of the moral and social controversies arising from innovation. Policymakers simplistically speak of increasing government spending on scientific research and ramping up the role of science, technology, engineering, and math in

our educational system as solutions to our economic woes. And scientific knowledge, which can be an essential tool for policymaking, is frequently used as a cover for political and ideological agendas.

An examination of President Obama's first four years in office shows that, unsurprisingly, his administration has followed the advice of science only insofar as it has supported or justified his political agenda.

Since the Second World War, the U.S. government has invested a great deal of money—over \$4.5 trillion in constant 2005 dollars—on scientific research and development, following a bipartisan consensus that scientific knowledge is an important foundation for economic growth, rising standards of living, and national security. But in much of his rhetoric and policymaking, President Obama has twisted that rationale, treating science as a symbol of the need for more government spending.

For instance, at the April 2013 press conference announcing his proposed brain-mapping initiative, the president repeated a claim that he had made in his most recent State of the Union address: “every dollar we invested to map the human genome returned \$140 to our economy—every dollar.” This figure can be traced to a study published by the research firm Battelle Technology Partnership Practice. But the economic modeling used to generate that figure has been criticized for including as *benefits* of the Human Genome Project some things that were actually *costs*, such as the salaries of the scientists and technicians involved in the project. The study also unrealistically claimed that economic activity across the entire genomics industry could be counted as “induced impacts” of the Human Genome Project—including, again, expenditures that might be better considered costs than benefits.

Few would dispute that basic scientific research of the sort performed in the Human Genome Project—or, for that matter, the proposed brain-mapping project—can be a worthy way for the government to spend taxpayer dollars. But exaggerating the promise of these endeavors can undermine the value of science in the long run, when overhyped projects fail to deliver. (As one commentator told the journal *Nature*, the lack of noticeable practical benefits flowing from the vaunted Human Genome Project in the decade-plus since its completion has led some of the lawmakers who supported the \$3.8 billion project to wonder, “where are the goodies?”) But President Obama still seems unafraid to overpromise, claiming of the new brain project that the knowledge of the human mind it seeks not only “could be” but “will be transformative.”

The president’s expression of unqualified high hopes for this project fits his rhetorical pattern of invoking science to justify his broader political agenda—in this case, his aim of increasing the government’s role in the economy. During the same press conference, he paused twice to criticize the “arbitrary, across-the-board cuts” imposed by the recent budget sequestration, and explicitly tied the proposed brain-mapping project to “other grand challenges like making solar energy as cheap as coal or making electric vehicles as affordable as the ones that run on gas.” The talk of “grand challenges” has been another hallmark of the Obama administration’s approach to science and technology funding, although it seems to have resulted less in serious scientific accomplishments than in cronyism and corporate welfare—the kind of politically motivated venture capitalism that led to the disastrous loan guarantees for green-energy companies like the solar-panel manufacturer Solyndra.

The Obama administration’s handling of two prominent issues relating to energy and the environment—the Yucca Mountain nuclear waste repository and the Keystone XL pipeline—merit particular attention. These cases highlight the administration’s lack of transparency and demonstrate the limited extent to which scientific advice can be expected to influence controversial policy decisions, while revealing the difficulty of sticking to the president’s 2009 promise to “base our public policies on the soundest science.”

Yucca Mountain was the site designated by federal law for the long-term storage of spent nuclear fuel, a project that faced persistent opposition from both Nevadans and anti-nuclear activists ever since the site was first suggested in the mid-1980s. Despite widespread scientific consensus that underground storage is the safest approach for disposing of nuclear waste, and billions of dollars and decades of research demonstrating the safety of the Yucca facility, the Obama administration used every tactic it could devise to halt the project. The administration even went so far as to start dismantling the project while still legally required to continue it.

Meanwhile, the Keystone XL pipeline controversy also demonstrates the limits of using science to dictate policy. An exhaustive study of Keystone’s potential environmental impact by the State Department found that the construction and operation of the pipeline would cause “no significant impacts” to nearby habitats and communities. But opposition to Keystone is not only based on concerns over the environmental impact of the pipeline itself, but also on the threat of climate change posed by

the use of petroleum from the Canadian oil sands. In a 2011 open letter, several activists described the pipeline as a “1,500-mile fuse to the biggest carbon bomb on the continent,” quoting climate scientist James Hansen’s claim that Canadian oil sands must be “left in the ground” if we are to have any chance of “stabiliz[ing] earth’s climate.”

Of course, no matter how much President Obama—or any other president faced with the choice of whether to build the pipeline—might want to base his decision only on the “soundest science,” the decision is an unavoidably political one. Some scientists report that the pipeline is a comparatively safe way to transport oil, but others contend, not incompatibly, that building and using the pipeline will contribute devastatingly to climate change. Meanwhile, the existence of the global marketplace suggests that if the pipeline is not built, Canada will export its oil-sands resources to some other country. And all this must be weighed against the U.S. economy’s ever-growing energy needs. Politics cannot be reduced to science or avoided by invoking the authority of science.

The Obama administration may not have distorted scientific evidence to suit its political agenda in the Yucca and Keystone cases—indeed, the State Department study on Keystone has drawn fire from the president’s environmentalist supporters for not condemning the pipeline. But the administration has not acted in accordance with the president’s 2009 statement that “promoting science isn’t just about providing resources” but about “listening to what [scientists] tell us, even when it’s inconvenient—especially when it’s inconvenient.” Instead, when science has confronted the administration with its own inconvenient truths, the administration has pursued a strategy of misdirection, delay, and inaction. We may disagree with the administration’s policy decisions in these cases and we certainly disapprove of its political tactics, but casting these issues as conflicts between science and politics would be a mistake—the same sort of mistake made by those critics who wrongly accused the Bush administration of waging a “war on science.”

In spite of the claims made by our scientist-in-chief and his allies that they, unlike their conservative political opponents, hold science in the “proper esteem,” the politicization of science is in many ways a greater temptation for the left than for conservatives. The Obama administration’s simplistic equation of government-funded scientific research with innovation appeals to the left’s impulse for economic collectivism; in his infamous “you didn’t build that” campaign speech, President Obama said

that it was the government “investing” in “basic science” that “keeps us as a leading-edge economy.” (Never mind that the private sector spends twice as much on R&D as the federal government.) And the conceit of putting science in its “rightful place” above politics, although drawing from many motivations, also neatly matches the progressive desire to shift the policy process away from democratic oversight and toward the centralized control of government agencies which can implement technocratic reforms.

Science is a vital part of American democracy and rightly enjoys a special position of trust and, on questions about the natural world, of epistemic authority. But this authority is based in no small part on the perception that science is an objective, disinterested means of pursuing the truth. Elevating science to a position of *political* authority is bound to change that perception, and indeed to corrupt the scientific spirit of disinterested objectivity. At this halfway mark in his presidency, we continue to disagree with President Obama’s implication that restoring science to its “rightful place” means putting it above politics. Rather, preserving the rightful place of science means remembering that its indispensable contribution to the crafting of policy must be balanced by the contributions of ethics, culture, economics, religion, and other sources of wisdom, and that science, like the rest of society, must be governed democratically.

—*Adam Keiper and Brendan P. Foht*