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## **Bush vs. the Laureates: How Science Became a Partisan Issue**

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Why is science seemingly at war with President Bush?

For nearly four years, and with rising intensity, scientists in and out of government have criticized the Bush administration, saying it has selected or suppressed research findings to suit preset policies, skewed advisory panels or ignored unwelcome advice, and quashed discussion within federal research agencies.

Administration officials see some of the criticism as partisan, and some perhaps a function of unrealistic expectations on the part of scientists about their role in policy debates. "This administration really does not like regulation and it believes in market processes in general," said Dr. John H. Marburger III, the president's science adviser, who is a Democrat.

"So there's always going to be a tilt in an administration like this one to a certain set of actions that you take to achieve some policy objective," he went on. "In general, science may give you some limits and tell you some boundary conditions on that set of actions, but it really doesn't tell you what to do."

Dr. Jesse H. Ausubel, an expert on energy and climate at Rockefeller University, said some of the bitterness expressed by other researchers could stem from their being excluded from policy circles that were open to them under previous administrations. "So these people who believe themselves important feel themselves belittled," he said.

Indeed, much of the criticism has come from private groups, like the Union of Concerned Scientists and many environmental organizations, with long records of opposing positions the administration favors.

Nevertheless, political action by scientists has not been so forceful since 1964, when Barry Goldwater's statements promoting the deployment of battlefield nuclear weapons spawned the creation of the 100,000-member group Scientists and Engineers for Johnson.

This year, 48 Nobel laureates dropped all pretense of nonpartisanship as they signed a letter endorsing Senator John Kerry. "Unlike previous administrations, Republican and Democratic alike, the Bush administration has ignored unbiased scientific advice in the policy making that is so important to our collective welfare," they wrote. The critics include members of past Republican administrations.

And battles continue to erupt in government agencies over how to communicate research findings that might clash with administration policies.

This month, three NASA scientists and several officials at NASA headquarters and at two agency research centers described how news releases on new global warming studies had been revised by administrators to play down definitiveness or risks. The scientists and officials said other releases had been delayed. "You have to be evenhanded in reporting science results, and it's apparent that there is a tendency for that not to be occurring now," said Dr. James E. Hansen, a climate expert who is director of the NASA Goddard Institute for Space Studies in Manhattan.

Glenn Mahone, the assistant administrator of NASA for public affairs, yesterday denied that any releases on climate had been held up or modified by anything other than normal reviews. "There has been a slowdown," he said.

But he insisted, "There is nothing in terms of any kind of approval process with the White House."

Earlier this year, after continuing complaints that the White House was asking litmus-test questions of nominees for scientific advisory panels, the first question asked of a candidate for a panel on Arctic issues, the candidate said, was: "Do you support the president?"

When asked about such incidents, officials with the Bush campaign call attention to Mr. Bush's frequent

queries to the National Academy of Sciences as evidence of his desire for good advice on technical issues.

"This president believes in pursuing the best, most objective science, and his record proves that," said Brian Jones, a campaign spokesman.

Yet complaints about the administration's approach to scientific information are coming even from within the government. Many career scientists and officials have expressed frustration and anger privately but were unwilling to be identified for fear of losing their jobs. But a few have stepped forward, including Dr. Hansen at NASA, who has been researching global warming and conveying its implications to Congress and the White House for two decades.

Dr. Hansen, who was invited to brief the Bush cabinet twice on climate and whose work has been cited by Mr. Bush, said he had decided to speak publicly about the situation because he was convinced global warming posed a serious threat and that further delays in addressing it would add to the risks.

"It's something that I've been worrying about for months," he said, describing his decision. "If I don't do something now I'll regret it.

"Under the Clinton-Gore administration, you did have occasions when Al Gore knew the answer he wanted, and he got annoyed if you presented something that wasn't consistent with that," Dr. Hansen said. "I got a little fed up with him, but it was not institutionalized the way it is now."

Under the Bush administration, he said, "they're picking and choosing information according to the answer that they want to get, and they've appointed so many people who are just focused on this that they really are having an impact on the day-to-day flow of information."

Disputes between scientists and the administration have erupted over stem cell policy, population control and Iraq's nuclear weapons research. But nowhere has the clash been more intense or sustained than in the area of climate change.

There the intensity of the disagreements has been stoked not only by disputes over claimed distortion or suppression of research findings, but on the other side by the enormous economic implications.

Several dozen interviews with administration officials and with scientists in and out of government, along with a variety of documents, show that the core of the clash is over instances in which scientists say that objective and relevant information is ignored or distorted in service of pre-established policy goals. Scientists were essentially locked out of important internal White House debates; candidates for advisory panels were asked about their politics as well as their scientific work; and the White House exerted broad control over how scientific findings were to be presented in public reports or news releases.

#### An Early Skirmish

Climate emerged as a prickly issue in the first months of Mr. Bush's term, when the White House began forging its energy policy and focusing on ways to increase domestic use of coal and production of oil.

In March 2001, a White House team used a single economic analysis by the Energy Department to build a case that Mr. Bush quickly used to back out of his campaign pledge to restrict power plant discharges of carbon dioxide, the main heat-trapping gas linked to global warming.

The analysis, from December 2000, was based on a number of assumptions, including one that no technological innovation would occur. The result showed that prompt cuts in carbon dioxide from power plants would weaken the economy.

Other analyses, including some by other branches of the Department of Energy, drew different conclusions but were ignored.

Advice from climate experts at the Environmental Protection Agency was sought but also ignored. A March 7 memorandum from agency experts to the White House team recommended that the carbon dioxide pledge be kept, saying the Energy Department study "was based on assumptions that do not apply" to Mr. Bush's plan and "inflates the costs of achieving carbon dioxide reductions." The memo was given to The New York Times by a former E.P.A. official who says science was not adequately considered.

Nonetheless, the White House team stuck to its course, drafting a memo on March 8 to John Bridgeland, the president's domestic policy adviser, that used the energy study to argue for abandoning the campaign promise.

None of the authors was a scientist. The team consisted of Cesar Conda, an adviser to Vice President Dick Cheney and now a political consultant; Andrew Lundquist, the White House energy policy director, who is now an energy lobbyist; Kyle E. McSlarrow, the chairman of Dan Quayle's 2000 presidential campaign and now deputy secretary of energy; Robert C. McNally Jr., an energy and economic analyst who is now an investment banker; Karen Knutson, a deputy on energy policy and a former Republican Senate aide; and Marcus Peacock, an analyst on science and energy issues from the Office of Management and Budget. They concluded that Mr. Bush could continue to say he believed that global warming was occurring but make a case that "any specific policy proposals or approaches aimed at addressing global warming must await further scientific inquiry."

A copy of the memo was recently given to The New York Times by a White House adviser at the time who now disagrees with the administration's chosen policies.

The Environmental Protection Agency tried one more time to argue that Mr. Bush should not change course.

In a section of a March 9 memo to the White House headed "Global warming science is compelling," agency officials said: "The science is strongest on the fact that carbon dioxide is contributing, and will continue to contribute, to global climate change. The greatest scientific uncertainties concern how fast the climate will change and what will be the regional impacts. Even within these bands of uncertainty, however, it is clear that global warming is an issue that must be addressed."

On March 13, Mr. Bush signed and sent a letter to four Republican senators who had sought clarification of the administration's climate plans. In it, Mr. Bush described the Energy Department study as "important new information that warrants a re-evaluation, especially at a time of rising energy prices and a serious energy shortage."

He said reconsideration of the carbon dioxide curbs was particularly appropriate "given the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change."

The letter also reiterated his longstanding opposition to the Kyoto Protocol, the climate treaty now moving toward enactment in almost all other industrialized countries.

In the next months, the White House set up a series of briefings on climate science and economics for the cabinet and also sought the advice of the National Academy of Sciences. The experts convened by the academy reaffirmed the scientific consensus that recent warming has human causes and that significant risks lie ahead. But the administration's position on what to do has not changed.

#### Hidden Assumptions

A handful of experts who have worked on climate policy in the Bush and Clinton administrations say that both tried to skew information to favor policies, but that there were distinct differences.

Andrew G. Keeler, who until June 2001 was on the president's Council of Economic Advisers and has since returned to teaching at the University of Georgia, said the Clinton administration had also played with economic calculations of the costs of curbing carbon dioxide emissions, in its case to show that limiting emissions would not be expensive.

But it made available all of the assumptions that went into its analysis, he said; by contrast, the Bush administration drew contorted conclusions but never revealed the details.

"The Clinton administration got these lowest possible costs by taking every assumption that would bias them down," he said. "But they were very clear about what the assumptions were. Anybody who wanted to could wade through them."

#### Tilting the Discussion

Some of the loudest criticisms of the administration on climate science have centered on changes to reports and other government documents dealing with the causes and consequences of global warming.

Political appointees have regularly revised news releases on climate from the National Oceanic and Atmospheric Administration, or NOAA, altering headlines and opening paragraphs to play down the continuing global warming trend.

The changes are often subtle, but they consistently shift the meaning of statements away from a sense that things are growing warmer in unusual ways.

The pattern has appeared in reports from other agencies as well.

Several sets of drafts and final press releases from NOAA on temperature trends were provided to The Times by government employees who said they were dismayed by the practice.

On Aug. 14, 2003, a news release summarizing July temperature patterns began as a draft with this headline: "NOAA reports record and near-record July heat in the West, cooler than average in the East, global temperature much warmer than average."

When it emerged from NOAA headquarters, it read: "NOAA reports cooler, wetter than average in the East, hot in the West."

Such efforts have continued in recent weeks. Scientists at the Goddard Institute for Space Studies, a leading research center studying climate, worked with public affairs officials last month to finish a release on new studies explaining why Antarctica had experienced cooling while most of the rest of the world had warmed.

The results, just published in a refereed scientific journal, showed that the depletion of the ozone layer over Antarctica had temporarily shifted atmospheric conditions in a way that cooled the region, but that as the layer heals in coming decades, Antarctica would quickly warm.

The headline initially approved by the agency's public affairs office and the scientists was "Cool Antarctica May Warm Rapidly This Century, Study Finds."

The version that finally emerged on Oct. 6 after review by political appointees was titled "Study Shows Potential for Antarctic Climate Change."

More significant than such changes has been the scope and depth of involvement by administration appointees in controlling information flowing through the farthest reaches of government on issues that could undermine policies.

Jeffrey Ruch, who runs Public Employees for Environmental Responsibility, a network for whistle-blowers who identify government actions that violate environmental laws or rules, said the Bush administration had taken information control to a level far beyond that of its predecessor.

"The Clinton administration was less organized and systematic, with lots of infighting, kind of like the old Will Rogers joke 'I belong to no organized political party; I'm a Democrat,'" Mr. Ruch said.

"This group, for good or ill, is much more centralized," he added. "It's very controlled in the sense that almost no decision, even personnel decisions, can be made without clearance from the top. In the realm of science that becomes problematic, because science isn't neat like that."

Dr. Marburger, the president's science adviser, defended such changes.

"This administration clearly has an attitude about climate change and climate science, and it's much more cautious than the previous administration," Dr. Marburger said. "This administration also tries to be consistent in its messages. It's an inevitable consequence that you're going to get this kind of tuning up of language."

#### Choosing Advisers

Another area where the issue of scientific distortion keeps surfacing is in the composition of advisory panels. In a host of instances documented in news reports and by groups like the Union of Concerned Scientists, candidates have been asked about their politics. In March 2003, the American Association for the Advancement of Science criticized those queries, saying in a statement that the practice "compromises the integrity of the process of receiving advice and is inappropriate." Despite three years of charges that it is remaking scientific and medical advisory panels to favor the goals of industry or social conservatives, the White House has continued to ask some panel nominees not only about their political views, but explicitly whether they support Mr. Bush.

One recent candidate was Prof. Sharon L. Smith, an expert on Arctic marine ecology at the University of Miami.

On March 12, she received a call from the White House. She had been nominated to take a seat about to open up on the Arctic Research Commission, a panel of presidential appointees that helps shape research on issues in the far north, including the debate over oil exploration in the Arctic National Wildlife Refuge.

The woman calling from the White House office of presidential personnel complimented her résumé, Dr. Smith recalled, then asked the first and -- as it turned out -- only question: "Do you support the president?"

"I was taking notes," Dr. Smith recalled. "I'm thinking I've lost my mind. I was in total shock. I'd never been asked that before."

She responded she was not a fan of Mr. Bush's economic and foreign policies. "That was the end of the interview," she said. "I was removed from consideration instantly."

In interviews, senior administration officials said that most advisory panels reflected a broad array of opinions and backgrounds and that Mr. Bush had the right at least to know where candidates stood on his policies.

"The people who end up on these panels tend to be pretty diverse and clearly don't all support the president's policies," Dr. Marburger said. "I think you'd have to say that the question is not a litmus-test question. It's perfectly acceptable for the president to know if someone he's appointing to one of his advisory committees supports his policies or not."

#### Inevitable Tension

To some extent, the war between science and the administration is a culture clash, both supporters and critics of Mr. Bush say.

"He uses a Sharpie pen," said John L. Howard Jr., a former adviser to Mr. Bush on the environment in both the White House and the Texas statehouse. "He's not a pencil with an eraser kind of guy."

In the campaign, Mr. Bush's team has portrayed this trait as an asset. His critics in the sciences say it is a dangerous liability.

Dr. Marburger argues that when scientific information is flowing through government agencies, the executive branch has every right to sift for inconsistencies and adjust the tone to suit its policies, as long as the result remains factual.

He said the recent ferment, including the attacks from the Union of Concerned Scientists, Democrats and environmental groups, all proved that the system works and that objective scientific information ultimately comes to the surface.

"I think people overestimate the power of government to affect science," he said. "Science has so many self-correcting aspects that I'm not really worried about these things."

He acknowledged that environmental and medical issues, in particular, would continue to have a difficult time in the policy arena, because the science was fundamentally more murky than in, say, physics or chemistry.

"I'm a physicist," Dr. Marburger said. "I know what you have to do to design an experiment where you get an unambiguous result. There is nothing like that in health and environment."

The situation is not likely to get better any time soon, say a host of experts, in part because of the growing array of issues either underlain by science, like global warming, or created by science, like genetic engineering and cloning.

"Since the Sputnik era we have not seen science and technology so squarely in the center of the radar screen for people in either the executive branch or Congress," said Charles M. Vest, the president of the Massachusetts Institute of Technology and a member of the President's Council of Advisers on Science and Technology. "I think it's inevitable we're going to have increasing conflicts and arguments about the role it plays in policy."