Science Friction

The growing--and dangerous--divide between scientists and the GOP.

By Nicholas Thompson
Not long ago, President Bush asked a federal agency for evidence to support a course of action that many believe he had already chosen to take on a matter of grave national importance that had divided the country. When the government experts didn't provide the information the president was looking for, the White House sent them back to hunt for more. The agency returned with additional raw and highly qualified information, which the president ran with, announcing his historic decision on national television. Yet the evidence soon turned out to be illusory, and the entire policy was called into question.

Weapons of mass destruction in Iraq, you say? Actually, the above scenario describes Bush's decision-making process on the issue of stem cell research. In August 2001, Bush was trying to resolve an issue he called "one of the most profound of our time." Biologists had discovered the potential of human embryonic stem cells--unspecialized cells that researchers can, in theory, induce to develop into virtually any type of human tissue. Medical researchers marveled at the possibility of producing treatments for medical conditions such as Parkinson's, Alzheimer's, and spinal cord injuries; religious conservatives quivered at the fact that these cells are derived from human embryos, either created in a laboratory or discarded from fertility clinics. Weighing those concerns, Bush announced that he would allow federal funding for research on 60-plus stem cell lines already taken from embryos, but that he would prohibit federal funding for research on new lines.

Within days, basic inquiries from reporters revealed that there were far fewer than 60 viable lines. The National Institutes of Health (NIH) has so far confirmed only 11 available lines. What's more, most of the existing stem cell lines had been nurtured in a growth fluid containing mouse tumor cells, making the stem cells prone to carrying infections that could highly complicate human trials. Research was already underway in the summer of 2001 to find an alternative to the mouse feeder cells--research that has since proven successful. But because these newer clean lines were developed after Bush's decision, researchers using them are ineligible for federal funding.

At the time of Bush's announcement, most scientists working in the field knew that although 60 lines might exist in some form somewhere, the number of robust and usable lines was much lower. Indeed, the NIH had published a report in July 2001 that explained the potential problems caused by the mouse feeder cells and estimated the total number of available lines at 30. Because that initial figure wasn't enough for the administration, according to Time magazine, Health and Human Services Secretary Tommy Thompson asked the NIH to see if more lines "might conceivably exist." When NIH representatives met with Bush a week before his speech with an estimate of 60 lines scattered around the world in unknown condition, the White House thought it had what it wanted. In his announcement, Bush proclaimed, without qualification, that there were "more than 60 genetically diverse stem cell lines."

After his speech, then-White House Counselor Karen Hughes said, "This is an issue that I think almost everyone who works at the White House, the president asked them their opinion at some point or another." However, Bush didn't seek the advice of Rosina
Bierbaum, then-director of the White House's Office of Science and Technology Policy (OSTP). Hughes claimed that Bush had consulted other top federal scientists, including former NIH director Harold Varmus. That was partly true, but the conversation with Varmus, for example, took place during a few informal minutes at a Yale graduation ceremony. Later press reports made much of Bush's conversations with bioethicists Leon Kass and Daniel Callahan. Yet neither is a practicing scientist, and both were widely known to oppose stem-cell research. Evan Snyder, director of the stem-cell program at the Burnham Institute in La Jolla, Calif., says, "I don't think science entered into Bush's decision at all."

The administration's stem-cell stand is just one of many examples, from climate change to abstinence-only sex-education programs, in which the White House has made policies that defy widely accepted scientific opinion. Why this administration feels unbound by the consensus of academic scientists can be gleaned, in part, from a telling anecdote in Nicholas Lemann's recent New Yorker profile of Karl Rove. When asked by Lemann to define a Democrat, Bush's chief political strategist replied, "Somebody with a doctorate." Lemann noted, "This he said with perhaps the suggestion of a smirk." Fundamentally, much of today's GOP, like Rove, seems to smirkingly equate academics, including scientists, with liberals.

In this regard, the White House is not necessarily wrong. Most scientists today do lean Democratic, just as most of the uniformed military votes Republican--much to the annoyance of Democrats. And like the latter cultural divide, the former can cause the country real problems. The mutual incomprehension and distrust between the Pentagon and the Clinton White House, especially in its early years, led to such debacles as Somalia and the clash over allowing gays to serve openly in the military. The Bush administration's dismissiveness toward scientists could also have serious consequences, from delaying vital new medical therapies to eroding America's general lead in science. The Clinton administration quickly felt the sting of the military's hostility and worked to repair the relationship. It's not clear, however, that the Bush administration cares to reach out to scientists--or even knows it has a problem.

Mad Scientists

The GOP has not always been the anti-science party. Republican Abraham Lincoln created the National Academy of Sciences in 1863. William McKinley, a president much admired by Karl Rove, won two presidential victories over the creationist Democrat William Jennings Bryan, and supported the creation of the Bureau of Standards, forerunner of today's National Institutes of Science and Technology. Perhaps the most pro-science president of the last century was Republican Dwight D. Eisenhower, a former West Point mathematics and engineering student, and later president of Columbia University. Eisenhower established the post of White House science adviser, allowed top researchers to wander in and out of the West Wing, and oversaw such critical scientific advances as the development of the U2 spy plane and federally funded programs to put more science teachers in public schools. At one point, he even said that he wanted to foster an attitude in America toward science that paralleled the country's embrace of competitive sports. Scientists returned the affection, leaning slightly in favor of the GOP in the 1960 election.

The split between the GOP and the scientific community began during the administration of Richard Nixon. In the late 1960s and early 1970s, protests against the Vietnam War captured the sympathy of the liberal academic community, including many scientists, whose opposition to the war turned them against Nixon. The president characteristically lashed back and, in 1973, abolished the entire White House science advisory team by executive order, fuming that they were all Democrats. Later, he was caught ranting on one of his tapes about a push, led by his science adviser, to spend more money on scientific
research in the crucial electoral state of California. Nixon complained, "Their only argument is that we're going to lose the support of the scientific community. We will never have their support." The GOP further alienated scientists with its "Southern strategy," an effort to broaden the party's appeal to white conservative Southerners. Many scientists were turned off by the increasing evangelical slant of Republicans and what many saw as coded appeals to white racists.

Scientists also tended to agree with Democrats' increasingly pro-environmental and consumer-protection stances, movements which both originated in academia. Gradually, as John Judis and Ruy Teixeira show in their recent book The Emerging Democratic Majority, professionals, the group of highly skilled workers that includes scientists, moved from the Republican camp to the Democratic. Yet that transition took a while, in large part because most professionals were still fiscally conservative, few sided with pro-union Democrats, and the Republican Party had not yet been overtaken by its more socially conservative factions. In the mid 1970s, for example, Republican President Gerald Ford showed a moderate streak while in the White House and reinstated the Office of Science and Technology Policy.

Ronald Reagan oversaw a widening gulf between the Republican Party and academic scientists. During the 1980 campaign, he refused to endorse evolution, a touchstone issue among scientists, saying, "Well, [evolution] is a theory--it is a scientific theory only, and it has in recent years been challenged in the world of science and is not yet believed in the scientific community to be as infallible as it was once believed." Though he aggressively funded research for military development, he alienated many in academia with his rush to build a missile defense system that most scientists thought unworkable.

George H.W. Bush tried to walk the tightrope. He pushed the Human Genome Project forward and elevated the position of chief science adviser from a special assistant to assistant. Yet he served during an acrimonious public debate about global warming, an issue that drove a wedge between academic scientists and the interests of the oil and gas industry--an increasingly powerful ally of the GOP. He generally sided with the oil industry and dismissed environmentalists' appeals for the most costly reforms. Yet he also tried to appease moderates by signing the landmark Framework Convention on Climate Change in Rio de Janeiro and helping pass the Clean Air Act, which aimed to reduce smog and acid rain. In the end, his compromising did him little good; environmentalists attacked him, and his rapprochement with liberal academic elites won him few friends with social conservatives. Bush faced a surprisingly tough primary challenge from Pat Buchanan in the 1992 election campaign, saw his support among evangelicals in the general election decline compared with 1988, and lost to the Democratic underdog Bill Clinton.

Newt Gingrich didn't make the same mistakes. When he became the House Speaker in 1995, Gingrich worked vigorously to cut budgets in areas with Democratic constituents--and he knew that by the time he came to office most scientists were supporting Democrats. The speaker took aim at research organizations such as the U.S. Geological Survey and National Biological Survey and dismissed action on global warming. He even abolished the Congressional Office of Technology Assessment, which served as the main scientific research arm of Capitol Hill. Gingrich claimed that OTA was too slow to keep up with congressional debates; agency defenders argued that the cut was fueled by partisan dislike of an agency perceived as a Democratic stronghold. Indeed, several years prior, OTA had published a report harshly critical of the predominantly GOP-backed missile defense project, the Strategic Defense Initiative.

By the mid 1990s, the GOP had firmly adopted a new paradigm for dismissing scientists as liberals. Gingrich believed, as Nixon did, that most scientists weren't going to support him politically. "Scientists tend to have an agenda, and it tends to be a liberal political agenda,"
explains Gingrich's close associate former Rep. Robert Walker (R-Pa.), the former chairman of the House Science Committee. In 1995, Rep. Dana Rohrabacher (R-Calif.), then-chairman of the House committee dealing with global warming, called climate change a "liberal claptrap." In interviews with The Washington Post in 2001, Texas Republican Tom DeLay dismissed evolution as unproven, said that we shouldn't need an EPA because "God charges us to be good stewards of the Earth," and denigrated scientific Nobel Prize winners as "liberal and extremist."

**Ph.D. Phobia**

George W. Bush embodies the modern GOP's attitude toward science. He hails from a segment of the energy industry that, when it comes to global warming, considers science an obstacle to growth. He is strongly partisan, deeply religious, and also tied to evangelical supporters. And, like Reagan, he has refused to endorse the scientific principle of evolution. During the 2000 campaign, a New York Times reporter asked whether he believed in evolution. Bush equivocated, leading the Times to write that he "believes the jury is still out."

Bush has also learned from his father's experience that siding with scientists gains him little politically, and often alienates conservatives. Bush and Rove have tried to woo portions of other groups that traditionally trend Democratic--steel tariffs for unions, faith-based grants for African-American ministers--but scientists are different. They aren't a big voting bloc. They are generally affluent, but not enough so to be major donors. They are capable of organizing under the auspices of a university to lobby for specific grants, but they aren't organized politically in a general way. In short, scientists aren't likely to cause the GOP problems if they are completely alienated. Scientists have almost never turned themselves into anything like a political force. Even Al Gore, the apotheosis of many scientists' political hopes, received little formal support from them during the 2000 campaign.

Consequently, the White House seems to have pushed scientific concerns down toward the bottom of its list of priorities. Bush, for instance, has half as many Ph.D.s in his cabinet as Clinton had two years into his term. Among the White House inner circle, Condoleezza Rice's doctorate distinguishes her as much as her race and more than her sex. Consider also the length of time the administration left top scientific positions vacant. It took 20 months to choose an FDA director, 14 months to choose an NIH director, and seven months to choose a White House science adviser for the Office of Science and Technology Policy. Once Bush had appointed a head of OSTP, he demoted the rank of the position, moved the office out of the White House, and cut the number of associate directors from four to two. An OSTP spokeswoman argues that the administration's decision to move OSTP was inconsequential and that reducing the number of associate directors was just a way of "reducing the stovepipes." But geography and staff equal clout in Washington, and unarguably signal how much the people in power care about what you do.

Moreover, Bush appointed to one of the two associate director positions Richard Russell, a Hill aide credentialed with only a bachelor's degree in biology, and let him interview candidates for the job of director. "It bothers me deeply [that he was given that spot], because I don't think that he is entirely qualified," says Allen Bromley, George H. W. Bush's science adviser, who worked for some of his tenure out of prime real estate in the West Wing of the White House. "To my astonishment, he ended up interviewing some of the very senior candidates, and he did not do well. The people he interviewed were not impressed."

**Cynical Trials**
When required to seek input from scientists, the administration tends to actively recruit those few who will bolster the positions it already knows it wants to support, even if that means defying scientific consensus. As with Bush's inquiry into stem-cell research, when preparing important policy decisions, the White House wants scientists to give them validation, not grief. The administration has stacked hitherto apolitical scientific advisory committees, and even an ergonomics study section, which is just a research group and has no policy making role.

Ergonomics became a politicized issue early in Bush's term when he overturned a Clinton-era rule requiring companies to do more to protect workers from carpal tunnel syndrome and other similar injuries. Late last year, the Department of Health and Human Services rejected, without explanation, three nominees for the Safety and Occupational Health Study Section who had already been approved by Dana Loomis, the group's chair, but who also weren't clearly aligned with the administration's position on ergonomics. Loomis then wrote a letter saying that "The Secretary's office declined to give reasons for its decision, but they seem ominously clear in at least one case: one of the rejected nominees is an expert in ergonomics who has publicly supported a workplace ergonomics standard." Another nominee, who was accepted, said that she had been called by an HHS official who wanted to know her views on ergonomics before allowing her on the panel.

The administration has further used these committees as places for religious conservatives whose political credentials are stronger than their research ones. For example, on Christmas Eve 2002, Bush appointed David Hager--a highly controversial doctor who has written that women should use prayer to reduce the symptoms of PMS--to the FDA's Reproductive Health Drugs Advisory Commission.

Bush has also taken to unprecedented levels the political vetting of nominees for advisory committees. When William Miller, a professor of psychology at the University of New Mexico, was considered as a candidate for a panel on the National Institute of Drug Abuse, he was asked his views on abortion, the death penalty, and whether he had voted for Bush. He said no to the last question and never received a call back. "Not only does the Bush administration scorn science; it is subjecting appointments to scientific advisory committees and even study sections to political tests," says Donald Kennedy, editor in chief of Science, the community's flagship publication.

**Control Group Politics**

Any administration will be tempted to trumpet the conclusions of science when they justify actions that are advantageous politically, and to ignore them when they don't. Democrats, for instance, are more than happy to tout the scientific consensus that human activity contributes to climate change, but play down evidence that drilling in the Arctic National Wildlife Refuge (which they oppose) probably will have little impact on the caribou there. But Democrats will only go so far down the path of ignoring scientific evidence because they don't want to alienate their scientific supporters. Increasingly, the Republicans feel little such restraint. Hence the Bush administration's propensity to tout scientific evidence only when it suits them politically. For instance, though numerous studies have shown the educational benefits of after-school programs, the Bush administration cited just one recent report casting doubt on those benefits to justify cutting federal after-school funding. Meanwhile, the White House has greatly increased the federal budget for abstinence-only sex education programs despite a notable lack of evidence that they work to reduce teen pregnancy. The administration vigorously applies cost-benefit analysis--some of it rigorous and reasonable--to reduce federal regulations on industry. But when the National Academy of Sciences concluded that humans are contributing to a planetary warming and that we face substantial future risks, the White House initially
misled the public about the report and then dramatically downplayed it. Even now, curious reporters asking the White House about climate change are sent to a small, and quickly diminishing, group of scientists who still doubt the causes of global warming. Many scientists were shocked that the administration had even ordered the report, a follow-up to a major report from the 2,500-scientist Intergovernmental Panel on Climate Change, the world's leading climate research committee. Doing that was like asking a district court to review a Supreme Court decision.

**Experts in Exile**

This White House's disinclination to engage the scientific community in important policy decisions may have serious consequences for the country. One crucial issue that Congress and the Bush administration will likely have to confront before Bush leaves office is human cloning. Researchers distinguish between "reproductive cloning," which most scientists abhor, and "therapeutic cloning," which may someday allow researchers to use stem cells from a patient's cloned embryo to grow replacement bone marrow, liver cells, or other organs, and which most scientists favor. When the President's Council on Bioethics voted on recommendations for the president, every single practicing scientist voted for moving therapeutic cloning forward. Bush, however, decided differently, supporting instead a bill sponsored by Sen. Sam Brownback (R-Kan.) to ban all forms of embryonic cloning.

John Marburger, the president's current scientific adviser--a longtime Democrat who says that he has good relations with Bush and is proud of the administration's science record--wrote in an email statement which barely conceals his own opinion: "As for my views on cloning, let me put it this way. The president's position--which is to ban all cloning--was made for a number of ethical reasons, and I do know that he had the best, most up-to-date science before him when he made that decision." Jack Gibbons, a former head of the Congressional Office of Technology Assessment, calls Bush's proposed ban "an attempt to throttle science, not to govern technology." Harold Varmus, the former NIH director, believes that "this is the first time that the [federal] government has ever tried to criminalize science."

Another potentially costly decision is the Bush administration's post-September 11 restrictions on the ability of foreign scientists to immigrate to the United States--restrictions which many scientists argue go far beyond reasonable precautions to keep out terrorists. In December 2002, the National Academy of Science, the National Academy of Engineering, and the Institute of Medicine issued a statement complaining that "recent efforts by our government to constrain the flow of international visitors in the name of national security are having serious unintended consequences for American science, engineering and medicine." Indeed, MIT recently abandoned a major artificial-intelligence research project because the school couldn't find enough graduate students who weren't foreigners and who could thus clear new security regulations.

**Unscientific Method**

Like Gingrich, Bush favors investments in scientific research for the military, health care, and other areas that garner strong public and industry support. Indeed, the White House quickly points to such funding increases whenever its attitude toward science is questioned. But for an administration that has boosted spending in a great number of areas, more money for science is less telling than how the Bush administration acts when specific items on its agenda collide with scientific evidence or research needs. In almost all of those cases, the scientists get tuned out.

Ignoring expert opinion on matters of science may never cause the administration the kind of political grief it is now suffering over its WMD Iraq policy. But neither is it some
benign bit of anti-elitist bias. American government has a history of investing in the capabilities and trusting the judgments of its scientific community—a legacy that has brought us sustained economic progress and unquestioned scientific leadership within the global intellectual community. For the short-term political profits that come with looking like an elite-dismissing friend of the everyman, the Bush administration has put that proud, dynamic history at real risk.

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