

*Scientific Integrity in
Washington:*

**Politics Trumps Science?...
and what to do about it?**

APS April Meeting 2005

1. “Political” Science

“Science, like any field of endeavor, relies on freedom of inquiry; and one of the hallmarks of that freedom is objectivity. Now more than ever, on issues ranging from climate change to AIDS research to genetic engineering to food additives, government relies on the impartial perspective of science for guidance.”

President George H.W. Bush
1990

1. “Political” Science

“This administration looks at the facts, and reviews the best available science based on what's right for the American people”

Scott McClellan
President George W. Bush's
White House Spokesman

1. “Political” Science

A white house staffer described a NYT reporter as a part of “the reality based community” which he defined as people who "believe that solutions emerge from your judicious study of discernible reality." When confronted by a reporter with a discussion of empiricism, he cut him off: "That's not the way the world really works anymore," he continued. "We're an empire now, and when we act, we create our own reality. And while you're studying that reality -- judiciously, as you will -- we'll act again, creating other new realities, which you can study too, and that's how things will sort out.”

The Ethos of Science?

- Honesty
- Full Disclosure
- Anti-Authoritarianism

The Ethos of Science?

In physics scientific integrity wanting recently:

- Two major frauds
- Molecular Electronics -Bell Laboratories
- Nuclear Physics -Lawrence Berkeley National Laboratory..



When Bell Labs scientist was shown to base some of his results on fraudulent data,

(i) Action was taken by the community, and
(ii) his other results, no matter how exciting, lost credence.

We should be prepared to apply the same skepticism to the political arena!

Science Under Attack

Sources:

- NY Times (LMK, etc)
- Wall Street Journal
- Chronicle of Higher Education
- National Academy of Sciences
- APS Policy Statements, Panels, Studies
- www.reform.house.gov/min
- UCS Feb 2004 Report: Scientific Integrity in Policymaking
- UCS Update July 2004 (ucsusa.org)

Science Under Attack?: A Brief History

- Growing Concern among scientists about censorship, and distortion of scientific results (i.e. LMK 4/22/03)
- House Committee on Government Reform-- Minority Staff Report (Waxman) Aug. 2003: Politics and Science
- February 18/04: Public Letter Restoring Scientific Integrity in Policymaking: 62 scientists: 20 Nobel Laureates, 19 National Medal of Science Winners, 4 former Science advisors to US Presidents (Rep. and Dem.)

RSI Letter..

“Successful application of science has played a large part in the policies that have made the United States of America the world’s most powerful nation and its citizens increasingly prosperous and healthy. Although scientific input to the government is rarely the only factor in public policy decisions, this input should always be weighed from an objective and impartial perspective to avoid perilous consequences. Indeed, this principle has long been adhered to by presidents and administrations of both parties in forming and implementing policies. The administration of George W. Bush has, however, disregarded this principle.”

RSI Letter..

“When scientific knowledge has been found to be in conflict with its political goals, the administration has often manipulated the process through which science enters into its decisions. This has been done by placing people who are professionally unqualified or who have clear conflicts of interest in official posts and on scientific advisory committees; by disbanding existing advisory committees; by censoring and suppressing reports by the government’s own scientists; and by simply not seeking independent scientific advice. Other administrations have, on occasion, engaged in such practices, but not so systematically nor on so wide a front. Furthermore, in advocating policies that are not scientifically sound, the administration has sometimes misrepresented scientific knowledge and misled the public about the implications of its policies..”

RSI Letter

The distortion of scientific knowledge for partisan political ends must cease if the public is to be properly informed about issues central to its well-being, and the nation is to benefit fully from its heavy investment in scientific research and education. To elevate the ethic that governs the relationship between science and government, Congress and the Executive should establish legislation and regulations that would:

- forbid censorship of scientific studies unless there is a reasonable national security concern;
- require all scientists on scientific advisory panels to meet high professional standards; and
- ensure public access to government studies and the findings of scientific advisory panels.

RIS Letter

Philip W. Anderson * †

David Baltimore * †

Paul Berg * †

Rosina Bierbaum

Nicolaas Bloembergen * †

Lewis M. Branscomb

Eric Chivian †

Joel E. Cohen

James Cronin * †

Margaret Davis

Paul M. Doty

Paul Ehrlich #

Thomas Eisner *

Christopher Field

Gerald D. Fischbach

Val L. Fitch * †

Jerry Franklin

Jerome Friedman

Richard L. Garwin *

John H. Gibbons

Marvin L. Goldberger

Lynn R. Goldman

Kurt Gottfried

David Grimes

Roger Guillemin * †

John P. Holdren

Anne Kapuscinski

Eric R. Kandel * †

Walter Kohn * †

Lawrence Krauss

Neal F. Lane

Leon M. Lederman * †

William Lipscomb †

Jane Lubchenco

Michael C. MacCracken

James J. McCarthy

Jerry M. Melillo

Matthew S. Meselson

David Michaels

Mario Molina †

Michael Oppenheimer

Gordon Orians

W.H.K. Panofsky *

Stuart Pimm

Ron Pulliam

Norman F. Ramsey * †

Anthony Robbins

Allan Rosenfield

F. Sherwood Rowland †

Edwin E. Salpeter #

William Schlesinger

J. Robert Schrieffer * †

Richard Smalley †

Felicia Stewart

Kevin Trenberth

Harold E. Varmus * †

Steven Weinberg * †

E.O. Wilson * #

Edward Witten *

George M. Woodwell

Donald Wuebbles

Herbert F. York

1. “Political” Science

- Global Warming
- Stem Cells
- Missile Defense
- Cancer
- Condoms
- Environmental Protection
- Advisory Committees
- Weapons of Mass Destruction

Global Warming...

- In 2002 the State Department successfully opposed internationally respected scientist Dr. Robert Watson's re-election as head of the Intergovernmental Panel on Climate Change, following that panel's report that: "there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities".
- In September 2002 the section on global warming was removed from the administration's annual report on the state of air pollution. In June 2003 the administration's comprehensive report on the environment had no mention of climate change. An earlier draft, with a section on global warming was removed at the request of the White House. An internal EPA memo noted that after editing, the section "no longer accurately reflects scientific consensus on climate change."

Stem Cells:

- August 2001: President Bush banned federal funding for research on new cell lines, arguing that the ban would not adversely affect patients, as “more than 60 genetically diverse stem cell lines” existed.
- Sept 2001: HHS Secretary acknowledged that only about 24-25 lines actually had reached maturity required for research.
- May 2003: NIH Director tells Congress only 11 stem cell lines are widely available for research, and all are potentially contaminated by viruses.

Missile Defense:

On March 23, 1983, President Reagan called upon “the scientific community in our country, those who gave us nuclear weapons, to turn their great talents to the cause of mankind and world peace; to give us a means of rendering these nuclear weapons impotent and obsolete.”

ALL STARSHIPS WORTH THEIR SALT HAVE SHIELDS....

- THE SPIRIT OF AMERICAN ENTERPRISE!
- NOTHING IS IMPOSSIBLE!

Missile Defense:

- In 2002, the American Physical Society passed a resolution calling on the government to delay deployment of a missile defense system until it was demonstrated to be workable against realistic threats.
- In 2003, the APS released a report showing early stage missile defense technologically not workable.

Missile Defense:

- In 2003, administration officials told the Senate that interceptors capable of shooting down enemy missiles with 90% efficiency would be in place by Sept 2004.
- Philip Coyle former director of Office of Test and Evaluation at the Pentagon reported that missile defense was at best a decade away
- After a 40% failure rate in all tests, Pentagon scraps further testing until system is in place!

Missile Defense:

- Missile Defense Shield was to be declared operational: Sept 2004.
- Eight silos deployed
- No tests done over 2 years! Dec 2004 and Feb 2005 tests failed. Interceptor did not leave silo
- Bush (campaign): You fire: we will shoot it down
- M. Lynn (last week): we are no longer defenseless against Ballistic Missiles.

Condoms

- A Web page of the Centers for Disease Control and Prevention used to say studies showed that education about condom use did not lead to earlier or increased sexual activity. That statement, which contradicts the view of "abstinence only" advocates, was omitted from a revised version of the page.
- A CDC initiative called “Programs that Work” identified sex education programs that scientific studies have been found to be effective...none were “abstinence-only”. In 2002 the CDC ended this initiative and removed information from its web site.
- In 2003 Ari Fleischer states: abstinence is more than sound science... it has a proven track record..”

Environmental Protection:

- Mercury Emission from Power Plants: EPA report delayed 9 months, leaked to the press, contradicting Admin claims about effects of emission.
- EPA evaluation of Senate proposed Clean air act alternative to admin Clear Skies act, demonstrating that it would results in 17,800 fewer deaths by 2020 and reduce CO2 emissions at negligible costs to industry, withheld.. ultimately leaked to Washington Post...

Environmental Protection:

“A directive issued in February 2002 instructed USDA staff scientists to seek prior approval before publishing any research or speaking publicly on “sensitive issues” including “agricultural practices with negative health and environmental consequences, e.g. global climate change; contamination of water by hazardous materials (nutrients, pesticides, and pathogens); animal feeding operations or crop production practices that negatively impact soil, water, or air quality.””

Advisory Committees

- CDC: Lead poisoning prevention panel: before meeting to explore toughening standards, HHS sec. Thompson rejected nominees to the committee. First time ever happened! Five individuals appointed.. two with financial ties to lead industry. Dismissed world lead expert Dr. Michael Weitzman, Chief of Pediatrics, U. Rochester.

Advisory Committees

- Political Litmus Tests: National Inst. for Occupational Safety and Health: HHS Thompson dismissed three experts on ergonomics, chosen by director of NIOSH and staff committee on the basis of credentials. Dismissed because of support for position opposed by admin.

Advisory Committees

- Underqualified Candidates: Dr. David Hager, USFDA Reproductive Health Advisory Committee: Bush admin initially recommended as chair: scant credentials, except for co-authoring a book that recommends scriptural readings as treatment for PMS, and known for his refusal to prescribe contraceptives to unmarried women...

Advisory Committees

- Dismissal of Advisory Committees:
- National Nuclear Security Admin external technical advisory committee, abolished in June 2003
- Arms Control Panel that advised the State dept on technical matters, dismissed...

Weapons of Mass Destruction

- Senior US officials repeatedly stated in the weeks leading up to the war that Iraq had attempted to acquire more than 100,000 high-strength aluminum tubes for gas centrifuges to be used for enriching uranium. Claim made by Condoleeza Rice, Dick Cheney, and President Bush in his address to the UN on Sept 12, 2002, and by Colin Powell in his speech to the UN on Feb 5, 2003.

Weapons of Mass Destruction

- Technical experts at DOE's Oak Ridge, Livermore, and Los Alamos National Laboratories found the tube dimensions were not appropriate for this purpose, but were identical to tubes acquired by Iraq for rocket motor casings in the 1980's.. This opinion was seconded by the IAEA. Powell was briefed before his speech...

Government Response

- Scott McClellan, said he had not seen the text of the scientists' accusations. "But I can assure you that this is an administration that makes decisions based on the best available science"
- No direct response from the President
- Dr. Marburger left to respond

Dr. Marburger's Response

1. IMMEDIATE DISMISSAL OF LETTER:

- “a miscellany of criticisms, many of which have been made in the past by partisan political figures and advocacy organizations”
- it is important to listen to "the distinguished scientific leadership in this country." But he said the report consisted of a largely disconnected list of events that did not make the case for a suppression of good scientific advice by the administration. "I think there are incidents where people have got their feathers ruffled," Dr. Marburger said. "But I don't think they add up to a big pattern of disrespect. In most cases," he added, "these are not profound actions that were taken as the result of a policy. They are individual actions that are part of the normal processes within the agencies."

2. PROMISED A DETAILED REBUTTAL


FURTHER ADMIN RESPONSE

- Marburger issues April 2nd detailed rebuttal to many of UCS claims
 - “[T]he accusation of a litmus test that must be met before someone can serve on an advisory panel is preposterous.”
- **NO ADMIN RESPONSE TO WAXMAN HOUSE REPORT OR OTHER REPORTS**
- **NO RESPONSE TO PROPOSALS TO ENSURE THIS DOES NOT OCCUR.**

July 2004: UCS UPDATE

Litmus Tests: NIH Councils:

- Richard Myers, Stanford Chair of Genetics: rejected from Advisory Council for Human Genome Research after questions from HHS director's office on his views on stem cell research and his views fo President Bush.
- George Weinstock; said he was asked about stem cells, and whether he voted for Bush.
- Clair Sterk: Council of Nat. Inst. on Drug Abuse, asked repeatedly if she had voted for Bush during confirmation process.
- Torston Wiesel, Nobel Laureate: rejected from NIH committee because he had signed New York Times letters critical of Bush

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- **Litmus Tests: Bioethics**
 - Elizabeth Blackburn and Dr. William May removed from President's council on bioethics. Blackburn, co-discoverer of telomerase, enzyme linked to cancer growth, one of only three biological scientists on committee.
 - Both had dissenting opinions on Stem Cell research.
 - Replaced by two individuals supportive of President's policy.

Since the Election

The Bad News:

- 6300 Signatories to RSI statement, including 48 Nobel Laureates, Presidential Science advisors back to Eisenhower.
- FDA still not allowed non-prescription access to Plan B contraceptive, seven months after agency head over-ruled panel.. (Hager: "What we heard today was frequently about individuals who did not want to take responsibility for their actions and wanted a medication to relieve those consequences.")
- EPA Inspector General charges that senior management instructed staff members to arrive at predetermined conclusion favoring industry when they prepared proposed rule to reduce amount of mercury emitted from coal-fired power plants. Also Wash. Post reports that EPA ignored Harvard study it paid for.

Bad News.. con't

- Missile Defense: we are defended.
- Marburger: White House R&D Budget: maintains and selectively strengthens” scientific research.. NSF budget increased by 2.4 percent..

Since the Election

- The Good News:
 - No new reported cases of litmus tests
 - First Career Scientist appointed to head EPA
 - Engineer appointed to head NASA
 - New Sec. of Energy high marks
 - Environmentalists Praise EPA for updating Cancer-Risk Guidelines
 - Dr. Marburger attends APS meeting!

Lessons?


- Dr. Marburger:
 - "[I]f we're not careful, the scientific community can become estranged from the rest of society and what it cares about."

Science and Society

- 45% of Americans do not believe in Evolution, and believe God created humans less than 10,000 years ago.
- Many view science as a threat and scientists complaints as nitpicking
- Coyle: public “sick and tired of R&D”
- Easily appeal to anti-science rhetoric (Bush claims of Global Warming “beaurocracy”)

Science and Society

- Scientists do NOT do well against marketing and public relations... or groups with a political agenda.
- Distrust of science: European study found that number of people who felt benefits of science outweigh the risks dropped 10% from 1992 to 2001, from 61% to 50%...
- Leshner AAAS: "It's not that Americans don't understand scientific facts, but rather that they don't like them and they don't want to hear them."




House majority leader, Tom Delay, who himself has a degree in biology, argued that the Columbine shootings occurred in part “because our school systems teach our children that they are nothing but glorified apes who have evolutionized out of some primordial mud.”

Science and Society

- LITTLE POLITICAL PRICE FOR POLITICIANS WHO HAVE AN AGENDA AND WHO DISTRUST SCIENCE TO ARGUE AGAINST IT.

LESSON

- WE MUST HELP DR. MARBURGER
- SCIENTIFIC COMMUNITY PROTESTS IMPORTANT, IN SPITE OF BACKLASH OR POSSIBLE MARGINALIZATION
- MORE UNDERSTANDING TO POLITICAL CONTEXT, AND MORE ATTENTION TO PROPER MARKETING APPROACH AND LESS TO DETAILS...



“The First Amendment protects against the government establishment of religion, but that doesn’t mean it will protect against bad science.”

Eugenie Scott,
Director, National Center for Science Ed.

Why Worry?:

- A Healthy Democracy depends on an informed electorate, and an informed legislative branch.
- Science and Technology are at the basis of almost every political decision of importance in our society. Yet scientific results are independent of political leanings.
- We neglect them at our peril.
- Our health and security is threatened..
- The credibility of our Government is threatened...