

THE PRESIDENT AS SCIENTIST-IN-CHIEF

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On February 18, 2004, a group of sixty scientists, including 20 Nobel Laureates, issued a joint statement condemning the administration of President George W. Bush for distorting scientific knowledge to achieve political ends.¹ The Union of Concerned Scientists (UCS) alleged, for instance, that the White House had forced the EPA to downplay the human causes of climate change in a major report and suppressed another EPA study endorsing the Senate version of a clean air bill over the Administration version.² More broadly, the UCS asserted that the White House was removing respected scientists from advisory boards and replacing them with unqualified industry insiders, giving non-scientists free reign to overrule scientific findings, and censoring scientific conclusions that ran counter to Administration policy preferences.³ Reflecting on President Bush's predecessors, the UCS stated that other Administrations have, on occasion, engaged in such practices, but not so systemically nor on so wide a front.⁴ In short, the UCS statement and accompanying report described a President acting as a Scientist-in-Chief.

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1. See UNION OF CONCERNED SCIENTISTS (UCS), SCIENTIFIC INTEGRITY IN POLICY MAKING: AN INVESTIGATION INTO THE BUSH ADMINISTRATION'S MISUSE OF SCIENCE (2004), available by request to rsi@ucsusa.org, updated version available at http://www.ucsusa.org/assets/documents/scientific_integrity/scientific_integrity_in_policy_making_july_2004_1.pdf.

2. *Id.* at 5, 9.

3. *Id.* at 19–25.

4. *Id.* at 26.

No administration has been above inserting politics into science from time to time. However a considerable number of individuals who have served in positions directly involved in the federal government's use of scientific knowledge and expertise have asserted that the Bush administration is, to an unprecedented degree, distorting and manipulating the science meant to assist the formation and implementation of policy.

Id.

Similar protests arose within government ranks as well. Federal agency scientists alleged that they were subject to political litmus tests as a condition of being hired.⁵ The media reported about scientists who claimed they were censored, forced to alter their conclusions, and prohibited from issuing reports and attending conferences.⁶ Government scientists leaked studies to the press that the Bush Administration allegedly suppressed.⁷ A 2006 survey of climate scientists in seven federal agencies showed that 43% of respondents reported that they or their colleagues faced personal pressure from the Bush Administration to change scientific findings.⁸ Surveys of other agencies likewise found political interference. At FDA, 18% of respondents stated that they had been asked to change their scientific conclusions for non-scientific reasons.⁹ At the Fish and Wildlife Service, 44% of respondents who worked on endangered species issues reported that they “have been directed, for non-scientific reasons, to refrain from making . . . findings that are protective of species.”¹⁰ Several career scientists and agency officials quit their jobs to protest White House influence over agency decisions.¹¹

5. Andrew C. Revkin, *Bush v. the Laureates: How Science Became a Partisan Issue*, N.Y. TIMES, Oct. 19, 2004.

6. See Daniel Howden, *US Censors Arctic Scientists' Findings as It Prepares for Oil and Gas Auction*, THE INDEPENDENT, Jan. 22, 2008; Juliet Eilperin, *Climate Researchers Feeling Heat from the White House*, WASH. POST, Apr. 6, 2006, at A27; Andrew C. Revkin & Matthew L. Wald, *Material Shows Weakening of Climate Change Reports*, N.Y. TIMES, Mar. 20, 2007, at A16; Christopher Lee, *Ex-Surgeon General Says White House Shushed Him*, WASH. POST, July 11, 2007, at A1; Juliet Eilperin, *Censorship Is Alleged at NOAA: Scientists Afraid to Speak Out, NASA Climate Expert Reports*, WASH. POST, Feb. 11, 2006, at A07; Andrew C. Revkin, *Climate Expert Says NASA Tried to Silence Him*, N.Y. TIMES, Jan. 29, 2006; Paul Recer, *Scientists Feel Stifled by Bush Administration*, WASH. POST, Feb. 21, 2005, at A2.

7. See Andrew C. Revkin, *Climate Research Faulted over Missing Components*, N.Y. TIMES, Apr. 22, 2005.

8. UCS, Survey: Federal Climate Scientists (2006), http://www.ucsusa.org/scientific_integrity/abuses_of_science/federal-climate-scientists.html.

9. UCS, VOICES OF SCIENTISTS AT FDA: PROTECTING PUBLIC HEALTH DEPENDS ON INDEPENDENT SCIENCE (2006), available at http://www.ucsusa.org/assets/documents/scientific_integrity/fda-survey-brochure.pdf.

10. UCS, Survey: U.S. Fish and Wildlife Service Scientists (2005), http://www.ucsusa.org/scientific_integrity/abuses_of_science/investigations_and_surveys/us-fish-wildlife-service.html.

11. See, e.g., Rob Stein, *Internal Dissension Grows as CDC Faces Big Threats to Public Health*, WASH. POST, Mar. 6, 2005 at A9; Kenneth Chang, *Scientists Say They Were Questioned on Politics*, N.Y. TIMES, July 9, 2004; Gardiner Harris, *Official Quits on Pill Delay at the F.D.A.*, N.Y. TIMES, Sept. 1, 2005.

Although the Bush Administration disputed these allegations,¹² you do not need a PhD in science—or even a law degree—to recognize that the Scientist-in-Chief model is entirely consistent with the unitary executive theory that the White House aggressively employed throughout the Bush presidency. Under unitary executive theory, the President is at the apex of the executive branch and all executive officers serve in his stead.¹³ Thus, the President can direct agencies in exercising their delegated powers.¹⁴ Scholars have extensively debated the merits of unitary executive theory in the context of the national security and foreign affairs issues implicated by President Bush's War on Terror.¹⁵ Yet the unitary executive debate paid less attention to the Bush Administration's approach to domestic policy, where President Bush also enforced a vigorous view of the unitary executive.¹⁶ This neglect is unwarranted. Federal agencies make scientific and technical decisions that touch each and every American in all areas of life, ranging from air quality to food safety to disease transmission.

Of course, it is not surprising that President Bush moved federal policy in directions favorable to important constituencies that helped him get elected. Environmental policies shifted towards the interests of oil, gas and coal companies, as well as ranchers, timber companies, and other big businesses.¹⁷ Pollution controls were eased, endangered species lost habitats, and public health dangers were minimized.¹⁸ Scientific findings also lost out to the interests of religious conservatives when the FDA denied approval of the non-prescription Plan B contraceptive pill and when the National Cancer Institute

12. See Andrew C. Revkin, *Bush's Science Aide Rejects Claims of Distorted Facts*, N.Y. TIMES, April 3, 2004.

13. See Christopher S. Yoo, Stephen G. Calabresi & Anthony J. Colangelo, *The Unitary Executive in the Modern Era, 1945–2004*, 90 IOWA L. REV. 601, 607 (2005).

14. See Robert D. Sloane, *The Scope of Executive Power In the Twenty-First Century: An Introduction*, 88 B. U. L. REV. 341, 343–47 (2008).

15. See, e.g., Dawn E. Johnsen, *What's a President to Do? Interpreting the Constitution in the Wake of Bush Administration Abuses*, 88 B. U. L. REV. 395 (2008); JACK L. GOLDSMITH, *THE TERROR PRESIDENCY: LAW AND JUDGMENT INSIDE THE BUSH ADMINISTRATION* (2007).

16. See generally Yoo, Calabresi, & Colangelo, *supra* note 13.

17. See Patrick Parenteau, *Anything Industry Wants: Environmental Policy Under Bush II*, 14 DUKE ENVTL. L. & POL'Y F. 363, 363 (2004).

18. See *id.* at 363 (listing ways in which the Bush Administration “has set about the task of systematically and unilaterally dismantling over thirty years of environmental and natural resources law”).

issued a fact sheet falsely suggesting a link between abortion and breast cancer.¹⁹

Unitary executive theory suggests that voters have gotten what they bargained for and that if they did not like these federal policies, they would punish the President through the electoral process.²⁰ This supposition gets to the heart of the debate over the President's directory authority; that is, whether the President can direct federal agencies in exercising their delegated powers. As Professor Peter Strauss has put it, the question is whether the President should be an overseer or a decider.²¹ When politics, law, and science collide, this question is further complicated because these disciplines differ widely in approach, assumptions, and aims. Science is only one consideration in these controversial policy decisions implicating moral, ethical, and economic factors.

This article explores President Bush's actions as Scientist-in-Chief, a role in which he took political control over the scientific decisions of federal agencies. Part I describes two high profile examples in which President Bush allegedly distorted scientific data to achieve his own policy objectives: first, the government's failure to acknowledge and regulate the human causes of climate change and second, the President's decision to ban federally funded research involving human embryonic stem cells other than those lines already in existence as of the date of his decision. Part II explores the legitimacy of the Scientist-in-Chief. This Part explores whether the President has explicit or implicit statutory authority to make scientific decisions, and concludes that at least with regard to global warming and stem cells, no such authority exists. Rather, President Bush asserted a broad directory authority over federal agencies.

19. CHRIS MOONEY, *THE REPUBLICAN WAR ON SCIENCE*, 170–235 (2005) (documenting ways in which the views of religious conservatives have impacted federal agency policies related to evolution and sexuality). In addition, the President has argued without empirical evidence that faith-based social services are superior to secular services, and he has vastly expanded government funding of faith-based social services without legislative authority. See Michele Gilman, *If at First You Don't Succeed, Sign an Executive Order: President Bush and the Expansion of Charitable Choice*, 15 WM. & MARY BILL RTS. J. 1103 (2007).

20. See Matthew C. Stephenson, *Optimal Political Control of the Bureaucracy*, 107 MICH. L. REV. 53, 59 (2008) (explaining the conventional wisdom that there is a “need for presidential control over bureaucratic policymaking, because the president is the institutional actor most responsive to the preferences of a national majority”).

21. See Peter L. Strauss, *Overseer or “The Decider”? The President in Administrative Law*, 75 GEO. WASH. L. REV. 696 (2007).

Accordingly, this Part asks whether a Scientist-in-Chief furthers the constitutional values of accountability and efficiency that underpin unitary executive theory. Part III examines the checks and balances on the Scientist-in-Chief. It examines how the Courts, Congress, states, and media sought to check the Scientist-in-Chief and the effectiveness of these checks. The article concludes that the President has the potential to focus the public's attention on scientific issues, thereby fostering transparency, democratic dialogue and debate, and public understanding of scientific concepts. However, a President who distorts, suppresses, or manipulates science can undermine all of these benefits, and when he substitutes his judgment for that of government scientists, executive accountability suffers.

I. SCIENCE IN THE BUSH ADMINISTRATION

The politicization of science needs to be considered separately from the substantive policy outcomes endorsed by a particular Administration. People may well disagree over President Bush's stance on topics such as abstinence education (for it), mercury emissions (not really that bad), and endangered species (protect only if no economic interference).²² However, this article asks an administrative law question: whether the President had the authority to make decisions on these issues and the processes by which he did so. For readers who oppose President Bush's agenda, consider a President directing more agreeable policy decisions. Could he substitute his judgment for that of the agencies he oversees?

Scientists and the media have raised dozens of allegations of scientific interference by the Bush Administration. This Part focuses on only two particularly high-profile examples: climate change and stem cells. These examples represent decision-making in two different disciplines—the environment and medicine—and also reflect the interests of two different Bush constituencies—the fossil fuel industry and religious conservatives. In addition, while many allegations of scientific interference have been linked to the Bush Administration generally, these particular examples have been traced directly to the White House.

22. See SETH SHULMAN, UNDERMINING SCIENCE: SUPPRESSION AND DISTORTION IN THE BUSH ADMINISTRATION ch. 4, 71–75, ch. 6 (2008) (discussing President Bush's abstinence, mercury, and endangered species policies, respectively).

A. Climate Change

Since at least 2001, the scientific consensus has been that human industrial activity is releasing carbon dioxide and other greenhouse gases into the atmosphere that are trapping heat and warming the planet's climate.²³ The United States emits more greenhouse gases than any nation other than China.²⁴ Scientists predict dire environmental, health, and economic consequences as a result of global warming, including rising sea levels along coastlines, unstable weather patterns, and increases in disease transmission.²⁵ However, the Bush Administration continuously sowed uncertainty over the causes and consequences of global warming.²⁶

President Bush's policy choices with respect to global warming reflected his avowed skepticism of the science.²⁷ His Administration neither committed to international accords nor adopted mandatory limits on greenhouse gas emissions.²⁸ In January 2001, the Intergovernmental Panel on Climate Change (IPCC), a worldwide group of 40,000 climatologists established by the United Nations, issued a report concluding that human activity was a factor in climate change.²⁹ Immediately thereafter, President Bush asked the independent National Academy of Sciences (NAS) to review the IPCC report.³⁰ The NAS endorsed the IPCC's conclusions, stating that the accumulation of greenhouse gases is "causing surface air

23. See *id.* at 16.

24. See John C. Dernbach & Seema Kakade, *Climate Change Law: An Introduction*, 29 ENERGY L.J. 1, 5 (2008).

25. See Lisa Heinzerling, *Climate Change, Human Health, and the Post-Cautionary Principle*, 96 GEO. L.J. 445, 447–48 (2008).

26. See Cinnamon Carlarne, *Climate Change—The New “Superwhale” in the Room: International Whaling and Climate Change Politics—Too Much in Common?* 80 S. CAL. L. REV. 753, 771 (2007).

27. See Parenteau, *supra* note 17, at 365.

28. Ken Alex, *A Period of Consequences: Global Warming as Public Nuisance*, 26A STAN. ENVTL.L.J. 77, 82–83 (2007) (“To put it mildly, the federal government’s response to global warming has been less than aggressive. The United States imposes no limits of any kind on any greenhouse gas emissions from any source”).

29. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), CLIMATE CHANGE 2001: SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS 5 (2001), available at <http://www.ipcc.ch/pdf/climate-changes-2001/synthesis-spm/synthesis-spm-en.pdf> (“There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.”).

30. COMM. ON THE SCI. OF CLIMATE CHANGE, NAT’L RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS 27 (2001), available at http://books.nap.edu/openbook.php?record_id=10139.

temperatures and subsurface ocean temperatures to rise.”³¹ Despite the conclusions of these scientific bodies, the Administration continued to stress scientific uncertainty about global warming.³² In 2001, President Bush withdrew from the Kyoto Protocol, an international agreement to reduce greenhouse gases, making the United States the only developed nation that is a non-signatory.³³ Claiming an “incomplete state of scientific knowledge” on global warming and harmful impact on U.S. economy, he instead endorsed voluntary caps on greenhouse gas emissions,³⁴ which are unlikely to be effective.³⁵ In May 2002, President Bush distanced himself from an EPA report outlining the predicted affects of global warming, dismissing it as “put out by the bureaucracy.”³⁶ Also in 2002, President Bush decided not to support the reappointment of Dr. Robert Watson, the Chair of the IPCC, and one of the world’s leading climate scientists.³⁷

Subsequently, in April 2003, the White House demanded that the EPA revise the global warming portion of its annual *Report on the Environment*.³⁸ The EPA’s initial version of the report linked a significant rise in global temperatures to human activities.³⁹ Among other edits, the White House substituted language from a study

31. *Id.* at 1.

32. See Heinzerling, *supra* note 25, at 456; Carlarne, *supra* note 26, at 771.

33. See SHULMAN, *supra* note 22, at 17.

34. See Paul Kevin Waterman, Note, *From Kyoto to ANWR: Critiquing the Bush Administration's Withdrawal from the Kyoto Protocol to the Framework Convention on Climate Change*, 13 *TRANSNAT'L L. & CONTEMP. PROBS.* 749, 751 (2003); Shari L. Diener, Note, *Ratification of Kyoto Aside: How International Law and Market Uncertainty Obviate the Current U.S. Approach to Climate Change Emissions*, 47 *WM. & MARY L. REV.* 2089, 2127 (2006). The President said that Kyoto was based on the “unproven science” of global warming. President George W. Bush, Remarks on Global Climate Change (June 11, 2001), in 37 *WKLY COMP. OF PRESIDENTIAL DOC.* 876 (“The targets [of Kyoto] were arbitrary and not based upon science”).

35. See Alice Kaswan, *The Domestic Response to Global Climate Change: What Role for Federal, State, and Litigation Initiatives*, 42 *U.S.F.L. REV.* 39, 44–45 (2007).

36. See Katherine Q. Seelye, *President Distances Himself from Global Warming Report*, *N.Y. TIMES*, June 5, 2002, at A23; *Bush Withholds Backing of EPA Report on Warming*, *WASH. POST*, June 5, 2002, at A2.

37. See John Mason, *U.S. Pressure Forces Removal of Climate Change Chief*, *FIN. TIMES* (London), Apr. 20, 2002, at 8; John Mason, *U.S. Defends Strategy on Fighting Global Warming*, *FIN. TIMES* (London), May 14, 2002, at 14.

38. See Jeremy Symons, *How Bush and Co. Obscure the Science*, *WASH. POST*, July 13, 2003, at B04; Andrew C. Revkin & Katharine Q. Seelye, *Report by E.P.A. Leaves out Data on Climate Change*, *N.Y. TIMES*, June 19, 2003, at A1.

39. *Id.*

funded by the American Petroleum Institute that questioned global warming, added qualifying language to various conclusions in order to suggest uncertainty, and eliminated the report's summary statement that "climate change has global consequences for human health and the environment."⁴⁰ Rather than make the White House's revisions, the EPA deleted the entire section on global warming, concluding that the edits "no longer accurately represent[] the scientific consensus on climate change."⁴¹

This and other Administration attempts to downplay global warming were traced to Philip Cooney, the Chief of Staff to President Bush's Council on Environmental Quality from 2001–2005.⁴² Cooney had no scientific credentials; his prior work experience was as a lawyer for the American Petroleum Institute, the oil industry's lobbying arm.⁴³ During his government tenure, there were numerous instances in which he edited scientific reports by federal agencies to suggest greater uncertainty over the scientific consensus on global warming than actually existed.⁴⁴ White House officials claimed that Cooney's edits were merely part of the normal interagency review process,⁴⁵ but two days after the story broke in the press, Cooney resigned. Three days later, he went to work for ExxonMobil.⁴⁶

By 2007, the IPCC reported that climate change science was "unequivocal."⁴⁷ Still, the EPA refused to list carbon dioxide or greenhouse gases as pollutants under the Clean Air Act, a decision that was reversed by the Supreme Court.⁴⁸ Despite the Court's opinion, the Bush Administration refused to regulate greenhouse

40. See SHULMAN, *supra* note 22, at 22–24.

41. See Symons, *supra* note 38; Revkin & Seelye, *supra* note 38.

42. See Andrew C. Revkin, *Bush Aide Softened Greenhouse Gas Links to Global Warming*, N.Y. TIMES, June 8, 2005 at A1.

43. *Id.*

44. See Andrew C. Revkin, *Bush Aide Edited Climate Reports*, N.Y. TIMES, June 8, 2005, at A2.

45. *Id.*

46. See *Ex-Bush Aide Plans to Join Exxon Mobil*, WASH. POST, June 15, 2005, at A11; Andrew C. Revkin, *Former Bush Aide Who Edited Reports Is Hired by Exxon*, N.Y. TIMES, June 15, 2005, at A1.

47. See Elisabeth Rosenthal & Andrew C. Revkin, *Science Panel Says Global Warming Is 'Unequivocal'*, N.Y. TIMES, Feb. 3, 2007, at A1 (the report asserted with more than 90% confidence that human-caused greenhouse gases have been the major source of global warming in the past 50 years).

48. *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007).

gases.⁴⁹ In December 2007, EPA's Associate Deputy Administrator, Jason Burnett, sent a proposed rule via email to the White House stating that climate change poses a threat to public welfare and proposing to limit greenhouse gas emissions.⁵⁰ The White House refused to open the email and demanded that it be recalled.⁵¹ Burnett resigned his political appointment in protest, explaining,

The White House made it clear they did not want to address the ramifications of that finding and have decided to leave the challenge to the next administration. Some [at the White House] thought that the EPA had mistakenly concluded that climate change endangers the public. It was no mistake.⁵²

The EPA ultimately opened a comment period on an advance notice of proposed rulemaking, thereby pushing any decision into the next administration.⁵³ Although Congress attempted to investigate the EPA's failure to regulate global warming, the White House asserted executive privilege to protect those documents.⁵⁴ In late July 2008, the EPA relented and allowed a congressional investigatory committee to read the emails—but not to keep them.⁵⁵

B. Stem Cells

Stem cells are unspecialized cells that have the capacity to develop into any one of the more than 200 different types of cells in the human body.⁵⁶ The cells are usually extracted for scientific

49. See Felicity Barringer, *E.P.A. Refuses to Regulate Greenhouse Gases*, N.Y. TIMES, July 11, 2008.

50. See Juliet Eilperin, *White House Tried to Silence EPA Proposal on Car Emissions, Agency Was Responding to Ruling About Clean Air Act*, WASH. POST, June 26, 2008; Felicity Barringer, *White House Refused to Open Pollutants E-Mail*, N.Y. TIMES, June 25, 2008.

51. See Eilperin, *supra* note 50.

52. *Id.*

53. See Juliet Eilperin & R. Jeffrey Smith, *EPA Won't Act on Emissions This Year, Instead of New Rules, More Comment Sought*, WASH. POST, July 11, 2008, at A1. In addition, in December 2007, over the advice of EPA staff, the EPA Administrator, Steven Johnson, rejected a waiver by California in which it sought to impose higher emission standards on cars than the federal government. See Micheline Maynard, *E.P.A. Denies California Emission's Waiver*, N.Y. TIMES, Dec. 19, 2007.

54. See Barringer, *E.P.A. Refuses to Regulate Greenhouse Gases*, *supra* note 49.

55. See Juliet Eilperin, *EPA E-Mail Concluded Global Warming Endangers Public Health, Senator Says*, WASH. POST, July 25, 2008, at A19.

56. See Yaniv Heled, *On Presidents, Agencies, and the Stem Cells Between Them: A Legal Analysis of President Bush's and the Federal Government's Policy on the Funding of Research Involving Human Embryonic Stem Cells*, 60 ADMIN. L. REV. 65, 68–69 (2008).

research from excess embryos donated after *in vitro* fertilization.⁵⁷ Scientists believe that these stem cells will someday be used to repair and replace damaged tissue and that research into stem cells could someday lead to treatments for diseases such as Parkinson's, Alzheimer's, diabetes, spinal cord injuries, and heart diseases.⁵⁸

The moral and ethical implications of this issue have pitted pro-life activists who oppose such research against supporters, including patients, their families, and researchers. Since 1995, Congress has annually passed a law called the Dickey Amendment, forbidding federal financing of research in which embryos are destroyed.⁵⁹ As a result, rules issued during the Clinton Administration allowed federal funding for scientific research on embryonic stem cells as long as the cells were not created for research purposes and were not extracted with federal dollars.⁶⁰ Pro-life activists were enraged.⁶¹ Given the support that pro-life voters gave President Bush, he had no choice but to wade into the controversy during his early days in office.

Shortly after President Bush took office, the Department of Health and Human Services (HHS) halted the review of all grant applications under the existing Clinton-era policy, stating that the agency would conduct a legal review of the issue.⁶² The President was reportedly torn between his commitments to pro-life supporters, who believe the research is tantamount to murder, and advocates of stem cell research, who point to its potential lifesaving promise.⁶³ On August 9, 2001, after much public deliberation, he announced on prime time television that he would allow federally financed research only on stem cells that had already been extracted as of the time of his

57. See SHULMAN, *supra* note 22, at 131–32. 11,000 embryos have been donated for research. *Id.* at 132.

58. *Id.* at 132.

59. See Susan L. Crockin, *The "Embryo" Wars: At the Epicenter of Science, Law, Religion, and Politics*, 39 FAM. L.Q. 599, 620 (2005) (describing the Dickey Amendment) (citing Omnibus Consolidated and Emergency Supplemental Appropriations Act (OCESAA), Pub. L. No. 104-99, Title I, § 128, 110 Stat. 26, 34 (1996)).

60. See Brenda Reddix-Small, *Assessing the Market for Human Reproductive Tissue Alienability: Why Can We Sell Our Eggs But Not Our Livers?*, 10 VAND. J. ENT. & TECH. L. 643, 656 (2008).

61. See Jody Veenker, *New Stem Cell Research Guidelines Criticized*, CHRISTIANITY TODAY, Feb. 7, 2000.

62. See Nicholas Wade, *Grants for Stem Cell Work Are Delayed*, N.Y. TIMES, April 24, 2001.

63. See Robert Pear, *Bush Administration Is Split over Stem Cell Research*, N.Y. TIMES, June 13, 2001.

speech, “where the life and death decision has already been made.”⁶⁴ In support of this compromise, he stated that there were already 60 diverse stem cell lines that could reproduce themselves indefinitely and provide ample opportunities for scientific research.⁶⁵ Scientists were immediately skeptical about the President’s claim that there were adequate stem cell lines to conduct research.⁶⁶ The estimate came from a phone survey conducted by the National Institutes of Health (NIH), rather than peer reviewed assessments.⁶⁷ Only two months previously, NIH reported the existence of only 30 stem cell lines.⁶⁸ A month after the President’s announcement, NIH admitted that fewer than half of the stem cell lines were available for research.⁶⁹ It remains unclear whether President Bush misunderstood the science or chose to ignore it to bolster his compromise position.

After President Bush issued his decision, he created the President’s Council on Bioethics to advise him on advances in biomedical science and technology.⁷⁰ One member was Elizabeth Blackburn, a world renowned cell biologist, who criticized many of the Council’s conclusions, including its assessment that adult stem cells could be as effective as embryonic stem cells.⁷¹ Two days after the UCS issued its report criticizing the Bush Administration’s politicization of science, Blackburn was not reappointed to the Council, and new members were appointed who held views more in line with the President’s.⁷² Blackburn’s dismissal was widely viewed

64. See Katharine Q. Seelye, *The President’s Decision: The Overview; Bush Gives His Backing for Limited Research on Existing Stem Cells*, N.Y. TIMES, Aug. 10, 2001.

65. *Id.*

66. See Sheryl Gay Stolberg, *The President’s Decision: The Research, U.S. Acts Quickly To Put Stem Cell Policy in Effect*, N.Y. TIMES, Aug. 11, 2001; Sheryl Gay Stolbert, *Trying to Get Past Numbers on Stem Cells*, N.Y. TIMES, at Sept. 7, 2001; Joanna K. Sax, *The States “Race” with the Federal Government for Stem Cell Research*, 15 ANNALS HEALTH L. 1, 15 (2006).

67. See SHULMAN, *supra* note 22, at 132–34.

68. See Rick Weiss, *Promising More-and Less: Scientists See Growth in Field, Lament Limits*, WASH. POST, Aug. 10, 2001, at A1.

69. See Sheryl Gay Stolberg, *U.S. Concedes Some Cell Lines Are Not Ready*, N.Y. TIMES, Sept. 6, 2001.

70. Creation of the President’s Council on Bioethics, Exec. Order No. 13,237, 66 Fed. Reg. 59851 (Nov. 28, 2001).

71. See Elizabeth Blackburn, *Bioethics and the Political Distortion of Biomedical Science*, 350 NEW ENG. J. MED. 1379, 1379–80 (2004).

72. See Nicholas Wade, *Bush Policy on Human Stem Cells Faces New Challenges*, N.Y. TIMES, Mar. 4, 2004; Rick Weiss, *Bush Ejects Two from Bioethics Council: Charges Renew Criticism That the President Puts Politics Ahead of Science*, WASH. POST, Feb. 28, 2004, at A6.

as retaliation over the UCS report, and over 170 bioethicists wrote an open letter to President Bush protesting her removal.⁷³

In 2005 and 2007, Congress passed legislation to expand stem cell research.⁷⁴ In each case, the President vetoed the bill and Congress failed to override the veto.⁷⁵ The President's stem cell policy slowed scientific research in the United States. As the director of the National, Heart, Lung, and Blood Institute stated, "Progress has been delayed by the limited number of cell lines. The NIH has ceded leadership in this field."⁷⁶

II. DISTORTING SCIENCE OR EXERCISING DISCRETION?

President Bush made headlines as he agonized over stem cell research and when he issued his final decision. Likewise, he spoke publicly about global warming and made important decisions impacting the nation's climate change policy.⁷⁷ Although these particular decisions have sparked waves of protest, there has been little challenge to the unspoken assumption that the President had every right to make these decisions. Despite all the brouhaha over the politicization of science in the Bush Administration, few have asked why the President gets to make these decisions and whether a Scientist-in-Chief is desirable and/or lawful.⁷⁸

The boundaries of presidential power are murky. Article II of the Constitution vests executive power in the President, but it says little about the scope and extent of that power in the domestic sphere.⁷⁹ The President has the authority to appoint "officers" of the United States, and he can "require the opinion, in writing" of those officers.⁸⁰ Beyond those specifications, Article II directs the

73. See Constance Holden, *Researchers Blast U.S. Bioethics Panel Shuffle*, 303 SCI. 1447, Mar. 5, 2004.

74. See Stem Cell Research Enhancement Act of 2005, H.R. 810, 109th Cong. (2005); Stem Cell Research Enhancement Act of 2007, H.R. 3, 110th Cong. (2007).

75. See Charles Babington, *Stem Cell Bill Gets Bush's First Veto*, WASH. POST, July 20, 2006, at A1; Sheryl Gay Stolberg, *Bush Vetoes Measure on Stem Cell Research*, N.Y. TIMES, June 21, 2007, at A21.

76. See SHULMAN, *supra* note 22, at 137.

77. See *supra* Part I.

78. A notable exception is Heled, *supra* note 56 (arguing that the President's stem cell decision lacks legal support).

79. U.S. CONST. art. II, § 1 ("The executive power shall be vested in a President of the United States of America").

80. U.S. CONST. art. II, § 2.

President to “take care that the laws be faithfully executed.”⁸¹ Not only is this language vague, but the history surrounding the Take Care Clause is inconclusive because the Framers themselves disagreed over the proper scope of executive power.⁸² As a result, vast disagreements over the scope of presidential powers remain unresolved. This uncertainty creates an opening for Presidents to justify their domestic policymaking under the Take Care Clause.

Justice Jackson wrote an influential concurrence in *Youngstown Sheet and Tube Co. v. Sawyer*⁸³ that sets forth a fluid conception of Presidential power. At one end of the spectrum, presidential authority is at its utmost when the President acts pursuant to express or implied statutory authority.⁸⁴ At the other end, presidential authority is at “its lowest ebb” when the President contradicts Congress’s will.⁸⁵ Between these two extremes, there is a “zone of twilight” in which the President can act where Congress has been silent and where the President is relying “upon his own independent powers.”⁸⁶

Under this framework, the surest justification for the Scientist-in-Chief would be if Congress gave the President express authority to make decisions on greenhouse gases and stem cell research, but, as this Part explains, there are no such statutes. The Take Care Clause would also be fulfilled if the President was guiding agencies in carrying out their statutory mandates. However, the President’s decisions appear to conflict with the governing statutes, placing his decisions in Jackson’s “lowest ebb” category. Accordingly, the President would likely rely on the theory of the unitary executive to justify his decisions as a Scientist-in-Chief. Under this theory, the President has the authority to direct agencies’ statutory discretion—

81. U.S. CONST. art. II, § 3.

82. See Martin S. Flaherty, *The Most Dangerous Branch*, 105 YALE L.J. 1725, 1755 (1996) (the narrative of the founding reveals “at the most general level . . . people groping toward a workable conception of government from which only broad purposes can safely be inferred”); Yvette M. Barksdale, *The Presidency and Administrative Value Selection*, 42 AM. U. L. REV. 273, 289–90 (1993) (“Indeed, the vagueness of [Article II] itself may have resulted from the Framers’ failure to agree on a view of executive power”).

83. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952) (holding that President Truman did not have the power to order the Secretary of Commerce to seize U.S. steel mills during the Korean War).

84. *Id.* at 635–36 (Jackson, J., concurring).

85. *Id.* at 637.

86. *Id.* at 633–38.

and possibly to sidestep congressional intent.⁸⁷ Yet the justifications for unitary executive theory do not support a Scientist-in-Chief. This Part explores each of these possible justifications and explains why they ultimately fail.

A. *Delegations to the President*

The clearest justification for the Scientist-in-Chief would be a congressional statute giving decision-making authority directly to the President. Typically, Congress legislates with a broad brush and gives specialized decision-making authority to executive agencies.⁸⁸ There are several reasons for these statutory delegations to agencies, ranging from the desire to have experts make complicated, technical decisions to an attempt to push politically controversial decisions to the executive branch.⁸⁹ Occasionally, however, Congress grants discretion specifically to the President rather than to an agency.⁹⁰ Accordingly, we need to examine the statutes regarding global warming and stem cells to see whether Congress has delegated decision-making authority to the President.

1. *Global Warming*

Congress delegated some authority over global warming to the President in the National Climate Program Act of 1978,⁹¹ which requires the President to establish a program to “assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications.”⁹² This statute authorizes

87. See Steven G. Calabresi & Saikrishna B. Prakash, *The President's Power to Execute the Laws*, 104 YALE L.J. 541 (1994).

88. See RICHARD J. PIERCE, ET AL., ADMINISTRATIVE LAW AND PROCESS 43–44 (4th ed. 2004).

89. *Id.*

90. Professor Kevin Stack has identified numerous statutes that expressly give the President oversight over agency officials, as well as statutes that specify a particular official through whom the President must act. See Kevin M. Stack, *The President's Statutory Powers to Administer the Laws*, 106 COLUM. L. REV. 263, 277–82 (2006).

91. Pub. L. No. 95-367, 92 Stat. 601 (1978) (codified at 15 U.S.C. §§ 2901–2908 (2000)).

92. 15 U.S.C. § 2902. To carry out the Act, President Carter asked the Climate Research Board (part of National Academy of Sciences), to investigate climate change. The Council concluded that global warming was a real phenomenon and that “a wait and see policy may mean waiting until it is too late.” *Massachusetts v. EPA*, 127 S. Ct. 1438, 1448 (2007) (quoting Climate Research Board, Carbon Dioxide and Climate: A Scientific Assessment vii (1979)).

the President to set up research bodies to study the problem of climate change.⁹³ It does not impose any binding obligations with regard to greenhouse gases emissions or give the President the authority to do so.⁹⁴ By contrast, most statutes addressing climate change are directed at federal agencies. For instance, Congress has enacted several statutes requiring the EPA to conduct planning, reporting, and research, but these statutes do not authorize regulation of greenhouse gas emissions.⁹⁵ Instead, regulatory authority can be found in the Clean Air Act, which gives the EPA Administrator the authority to regulate air pollutants “which may reasonably be anticipated to endanger public health or welfare.”⁹⁶

In *Massachusetts v. EPA*, the EPA argued before the Supreme Court that the Clean Air Act did not grant the agency statutory authority to regulate greenhouse gases.⁹⁷ The Supreme Court disagreed, stating, “The statute is unambiguous.”⁹⁸ Accordingly, the EPA has the responsibility to determine whether greenhouse gases contribute to climate change and to make regulatory decisions based on its conclusions.⁹⁹ Neither the text of the Clean Air Act nor *Massachusetts v. EPA* directs the President to do anything.¹⁰⁰ Nevertheless, the White House is directing the EPA’s current policy of delay.¹⁰¹

93. 15 U.S.C. §§ 2901–2908.

94. *Id.*

95. Global Climate Protection Act of 1987, Pub. L. No. 100-204, 101 Stat. 1331, note following 15 U.S.C. § 2901 (1987) (EPA must propose to Congress a “coordinated national policy on global climate change”); Global Change Research Act of 1990, Pub. L. No. 101-606, 104 Stat. 3096 (1990) (codified at 15 U.S.C. §§ 2921–2961 (2000)); Energy Security Act, Pub. L. No. 96-294, 94 Stat. 611 (1980) (codified in scattered sections of 7 U.S.C., 15 U.S.C., 30 U.S.C., 42 U.S.C., and 50 U.S.C. (2000)) (directing the Office of Science and Technology Policy to study the projected impact of carbon dioxide levels in the atmosphere); Global Change Research Program, 15 U.S.C. §§ 2931–2938 (2000) (mandating periodic assessments of the potential consequences of global change); Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) (codified in scattered sections of 16 U.S.C., 25 U.S.C., 26 U.S.C., 30 U.S.C., and 42 U.S.C. (2000)) (the Secretary of Energy must report to Congress on a “least-cost energy strategy” to reduce greenhouse gas emissions).

96. 42 U.S.C. § 7521(a)(1) (2000).

97. *Massachusetts v. EPA*, 127 S. Ct. at 1450.

98. *Id.* at 1460.

99. *Id.* at 1463.

100. *See id.* (discussing 42 U.S.C. § 7521(a)(1)).

101. By contrast, the President has the authority to withdraw from the Kyoto Protocol. The “Treaty Clause” of the Constitution gives the President the “power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur.” U.S. CONST. art. II, § 2, cl. 2.

2. Stem Cells

The statutory framework with regard to stem cell research is more straightforward. Since 1995, Congress has annually attached a rider, known as the Dickey Amendment, to the HHS appropriations bill banning federal funding for research in which “a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death[.]”¹⁰² However, this statute does not bar federal funding of research on stem cell lines that were derived from embryos without federal support.¹⁰³ In other words, if the stem cell lines have already been created, federal researchers may use them.

Congress has specifically granted authority to the National Institutes of Health (NIH) to make funding policies for federal research grants in accord with the National Institutes of Health Revitalization Act of 1993 (NIHRA).¹⁰⁴ The NIHRA provides that the NIH may not withhold funds for research because of ethical considerations unless it convenes an Ethics Advisory Board and the majority of the board recommends the withholding of such funds.¹⁰⁵ The Board must consist of between 14 and 20 individuals who do not work for the federal government and who possess “special qualifications and competence to provide advice and recommendations regarding ethical matters in biomedical and behavioral research.”¹⁰⁶ In addition, at least one-third and no more than one-half “shall be scientists with substantial accomplishments in biomedical or behavioral research.”¹⁰⁷ This statute was “intended to prohibit unilateral actions that block research approved by the merit review system,” and to prohibit “unreasonable prohibitions . . . imposed in an arbitrary manner on exceptional and promising research.”¹⁰⁸ As a result of the NIHRA, all meritorious scientific

102. The Balanced Budget Downpayment Act, I, Pub. L. No. 104-99, § 128(2), 110 Stat. 26, 34 (1996).

103. See Heled, *supra* note 56, at 77–78.

104. Pub. L. No. 103-43, 107 Stat. 122 (1993) (codified at 42 U.S.C. § 289a-1 (2000)). Congress passed this statute after HHS Secretary Louis Sullivan rejected the advice of an advisory committee and put a moratorium on federal funding for research involving human fetal tissue. See Heled, *supra* note 56, at 72–75.

105. 42 U.S.C. § 289a-1(b) (The Secretary can also withhold funds if the majority of the advisory board recommends funding, but the Secretary determines the decision is arbitrary and capricious).

106. 42 U.S.C. § 289a-1(b)(5).

107. *Id.*

108. S. REP. NO. 103-2, at 13 (1993).

research must be funded, unless it is withheld pursuant to the requirements of the statute.¹⁰⁹

Neither the Dickey Amendment nor the NIHRA provide a role for the President to weigh in on funding decisions regarding biomedical research. Nevertheless, President Bush bypassed this process and made clear that his stem cell decision was his and his alone. In his televised address to the nation, he said, “I have concluded that we should allow Federal funds to be used for research on these existing stem cell lines I have made this decision with great care, and I pray it is the right one.”¹¹⁰ The authority he asserted cannot be found in any statute.

B. President as Overseer

In lieu of direct statutory authority, the President might argue that he was acting in an oversight role to ensure that federal agencies carry out congressional intent. No theorist doubts that this oversight role is well within the President’s purview. Indeed, it is constitutionally compelled by the Take Care Clause, which commands the President to take care that the laws be faithfully executed.¹¹¹ However, President Bush’s “oversight” appears to conflict with the mandates of these statutes.

To be sure, Congress has not enacted global warming legislation directly mandating reduced emissions, nor has it supported ratification of the Kyoto Protocol.¹¹² Thus, President Bush might have argued that his direction to the EPA was not given as a Scientist-in-Chief, but rather to carry out congressional intent. In other words, if Congress had not taken action against global warming, why should the executive branch?

In *Massachusetts v. EPA*, the EPA made a similar argument, relying heavily on *FDA v. Brown and Williamson Tobacco Corp.*, in

109. See Heled, *supra* note 56, at 94.

110. President George W. Bush, Address to the Nation on Stem Cell Research from Crawford, Texas (Aug. 9, 2001), in 37 WKLY COMP. OF PRESIDENTIAL DOC. 1149.

111. See Mary M. Cheh, *When Congress Commands a Thing to Be Done: An Essay on Marbury v. Madison, Executive Inaction, and the Duty of the Courts to Enforce the Law*, 72 GEO. WASH. L. REV. 253, 275 (2003).

112. Concerned that developing countries were not being held to account on the issue, the Senate passed a resolution stating its opinion that the United States should not be a signatory to any protocol that did not include binding targets and timetables for developing nations or that “would result in serious harm to the U.S. economy.” S. Res. 98, 105th Cong. (1997).

which the Supreme Court held that the Food and Drug Administration (FDA) could not regulate (and thereby ban) tobacco in light of a lengthy legislative history in which Congress passed many laws concerning tobacco, but did not ban it.¹¹³ The *Massachusetts v. EPA* Court rejected the *Brown and Williamson Corp.* analogy, ruling that EPA regulation of greenhouse gases would not conflict with any congressional action.¹¹⁴ Unlike the FDA, which had repeatedly disclaimed the authority to regulate tobacco, the EPA had never previously disclaimed authority to regulate greenhouse gases.¹¹⁵ Thus, the statutes in each area were enacted against quite different backdrops. As the Court stated, the fact that subsequent Congresses “have eschewed enacting binding emissions limitations to combat global warming tells us nothing about what Congress meant when it” enacted and amended the Clean Air Act.¹¹⁶

Still, prior to *Massachusetts v. EPA*, it is fair to say that the President had a meritorious argument that he was not defying congressional intent. Although the Supreme Court distinguished *Brown and Williamson Corp.*, that was not a foregone conclusion, and indeed, the D.C. Circuit agreed with the EPA.¹¹⁷ However, in light of *Massachusetts v. EPA*, the presidential oversight argument no longer works, *i.e.*, the President cannot say he is carrying out the will of Congress when he delays regulatory action. Nevertheless, the Bush White House continued to discourage EPA from regulating greenhouse gases.¹¹⁸

On stem cell research, President Bush’s final compromise position seems fairly consistent with the wishes of Congresses that have enacted stem cell legislation. The repeated passage of the Dickey Amendment demonstrates Congress’s wariness about stem cell research.¹¹⁹ Yet the President’s unilateral takeover of this decision conflicts squarely with the NIHRA, which requires the formation and input of an Ethics Advisory Board before research funds are withheld for scientific research.¹²⁰ Congressional intent here is clear—neither the President nor the agency head may go it

113. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1450 (2007).

114. *Id.* at 1461–62.

115. *Id.*

116. *Id.* at 1460.

117. *See Massachusetts v. EPA*, 415 F.3d 50, 58 (D.C. Cir. 2005).

118. *See supra* notes 49–55 and accompanying text.

119. *See supra* note 59 and accompanying text.

120. *See supra* note 110 and accompanying text.

alone. The executive branch must put together an Advisory Board representing diverse scientific perspectives on the issue and implement the recommendations of that Board unless they are arbitrary and capricious. By taking over this function, the President is in clear violation of a law that on its face negates any concept of a Scientist-in-Chief.

As an alternative, the President might assert that he is supervising the agencies pursuant to the Data Quality Act (DQA).¹²¹ The DQA requires the Office of Management and Budget (OMB)—located within the Executive Office of the President—to issue guidance to federal agencies to ensure the “quality, objectivity, utility, and integrity of information disseminated” to the public.¹²² To achieve these goals, agencies must allow the public to seek correction of information that they allege fails to comply with the OMB guidelines.¹²³ In other words, if someone is unhappy with government scientific research, they can essentially petition that the research be changed or withdrawn. For instance, an anti-regulatory think tank filed DQA challenges demanding that three federal agencies withdraw the National Assessment on Climate Change, an interagency report about the role of greenhouse gases in global warming.¹²⁴ The OMB guidelines further mandate peer review for scientific information that has a major monetary impact or is “novel, controversial or precedent-setting[.]”¹²⁵ The DQA was adopted without hearings or debates as a rider to a large 2001 federal appropriations bill, and drafted by a lobbyist for private industry.¹²⁶ Not surprisingly, the DQA, as well as the peer review guidelines,

121. Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub. L. No. 106-554, 114 Stat. 2763, note following 44 U.S.C. § 3516 (2001). The Act is also known as the Information Quality Act.

122. *Id.*

123. *Id.*

124. Thomas McGarity, *Defending Clean Science from Dirty Attacks*, in *RESCUING SCIENCE FROM POLITICS: REGULATION AND THE DISTORTION OF SCIENTIFIC RESEARCH* 21, 40 (Wendy Wagner & Rena Steinzor, eds., 2006). The White House Office of Science and Technology denied the petition. The Competitive Enterprise Institute think tank sued the President, and a settlement was reached in which the government placed a disclaimer on the NACC report stating the report had not been prepared in accordance with the DQA requirements. *Id.*

125. Final Information Quality Bulletin for Peer Review, 70 Fed. Reg. 2664, 2666 (Jan. 14, 2005).

126. The author of the bill was Jim Tozzi, a lobbyist for the tobacco industry. See Donald T. Honstrein, *The Data Wars, Adaptive Management, and the Irony of “Sound Science,”* in *RESCUING SCIENCE FROM POLITICS*, *supra* note 124, at 103, 112–13.

have been very controversial.¹²⁷ Proponents believe it will further “sound science,” by standardizing agency science and making agencies accountable for basing decisions on quality information.¹²⁸ Anti-regulatory forces have long alleged that agencies are over-regulating based on “junk science.”¹²⁹ DQA opponents argue that it is a tactic for delaying regulation and allowing politics to override agency expertise, especially considering that OMB lacks the scientific expertise possessed by the agencies it reviews.¹³⁰

Given that OMB is subject to the control of the President, one could view President Bush’s caution on global warming and stem cell research as a way of promoting “sound science,” in keeping with the goals of the DQA and similar statutes that aim to improve and standardize agency decision-making. The irony, however, is that the President’s rejection of global warming science runs counter to extensively peer reviewed science, and his misstatement about the available number of stem cell lines was based on faulty information gleaned through a phone survey rather than peer reviewed reports.¹³¹ Thus, the President appears to be acting contrary to the substantive goals of the DQA, *i.e.*, he is not furthering sound science. Moreover, the DQA does not give OMB authority to “correct” faulty science; rather, it relies on peer review and the threat of private challenges to ensure quality science. While the DQA gives the public the chance to challenge agency science, it does not give the President the authority to reverse scientific determinations.

127. See David S. Caudill, *Images of Expertise: Converging Discourses on the Use and Abuse of Science in Massachusetts v. EPA*, 18 VILL. ENVTL. L.J. 185, 200–03 (2007) (outlining arguments for and against).

128. See, e.g., James W. Conrad, *The Information Quality Act—Antiregulatory Costs of Mythic Proportions?* 12 KAN. J.L. & PUB. POL’Y 521, 526 (2003) (commenting that prior to the Data Quality Act the federal government lacked “clear accountability for governmental use of information to accomplish policy goals”).

129. See Wendy E. Wagner, *The “Bad Science” Fiction: Reclaiming the Debate over the Role of Science in Public Health and Environmental Regulation*, 66 LAW & CONTEMP. PROBS. 63 (2003); Thomas O. McGarity, *Our Science Is Sound Science and Their Science Is Junk Science: Science-Based Strategies for Avoiding Accountability and Responsibility for Risk-Producing Products and Activities*, 52 U. KAN. L. REV. 897, 901 (2004) (arguing that junk science claims “are artfully framed appeals to scientific objectivity that carefully avoid the appearance of self-interest. In reality, neither claim is well-grounded in fact.”).

130. See Stephen M. Johnson, *Junking the “Junk Science” Law: Reforming the Information Quality Act*, 58 ADMIN. L. REV. 37 (2006); McGarity, *Our Science Is Sound Science*, *supra* note 129, at 934–36 (arguing that the DQA will encourage corpuscular attacks on agency decisions).

131. See *supra* notes 23–25, 67 and accompanying text.

In sum, the President cannot point to a statute that gives him the authority to make decisions about global warming or stem cells. Moreover, his decisions conflict with the substantive mandate of the Clean Air Act (regulate harmful vehicle emissions) and the procedural mandate of the NIHRA (appoint an advisory body to study the issue). As a result, unitary executive theory is the only possible justification for the Scientist-in-Chief.

C. Directory Authority

Presidential directory authority is a more expansive theory to support a Scientist-in-Chief. Under this view of Article II, as long as a statute grants an agency decision-making discretion, the President can direct the agency's outcome.¹³² This argument derives from the concept of the President as the unitary executive.¹³³ The President is at the apex of the executive branch; all executive officers serve in his stead; and thus, the President can direct the outcome of the executive officers' exercise of delegated powers.¹³⁴ Unitary executive enthusiasts have argued from both originalist and normative positions, but both viewpoints hinge on the values of accountability and efficiency. Originalists argue that the constitutional text, structure, and enactment history prove the Framers' intent "to construct a unitary Executive since they felt it was conducive to energy, dispatch, and responsibility."¹³⁵ Non-originalists contend that although the Framers never foresaw the growth of the modern administrative state and thus did not consider directory authority, modern reality demands fidelity to the constitutional commitments of accountability and efficiency.¹³⁶

By contrast, opponents of directory authority view agencies as the delegates of Congress rather than instruments of the executive. In this view, the Framers "believed that the President would be a

132. See Calabresi & Prakash, *supra* note 87, 570 ("the Constitution unambiguously gives the President the power to control the execution of all federal laws").

133. See David J. Barron, *From Takeover to Merger: Reforming Administrative Law in an Age of Agency Politicization*, 76 GEO. WASH. L. REV. 1095, 1107–1008 (2008) (describing unitary executive theory and its relationship to the administrative state).

134. See *id.*

135. Calabresi & Prakash, *supra* note 87, at 639.

136. See Lawrence Lessig & Cass R. Sunstein, *The President and the Administration*, 94 COLUM. L. REV. 1 (1994). Likewise, Elana Kagan doubts that a unitary executive is constitutionally compelled, but agrees that the "the values of accountability and effectiveness [are] the principal values that all models of administration must attempt to further." Elana Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2252 (2001).

managerial agent for the legislature rather than an independent source of domestic policy.”¹³⁷ Further, concentration of power within the executive runs counter to the Framers’ goal of avoiding tyranny by balancing and dispersing power among the branches.¹³⁸ The Framers were less concerned with accountability than “with making the machinery of government somewhat cumbersome, thus ensuring against the hegemony of one branch or person.”¹³⁹ The text of the Take Care Clause also supports this managerial viewpoint. It instructs the President to ensure “that the laws are faithfully executed,”¹⁴⁰ but does not give him the power to execute those laws himself. The wording of the Clause presumes that executive subordinates will be carrying out Congress’s mandates under the President’s watchful eye. Its emphasis on faithfulness assumes that presidential power will be used to further fidelity to externally defined norms—not those of the President alone. Moreover, Congress’s occasional direct delegations to the President “support the negative inference that when Congress simply delegates to an agency . . . the statute denies the President directive authority.”¹⁴¹

Supreme Court cases variously—and irreconcilably—reflect both views. Unitary executive supporters line up behind *Myers v. United States*, *Bowsher v. Synar*, and *INS v. Chadha*—decisions that limit Congress’s ability to intrude on executive authority.¹⁴² Yet despite broad language in these cases, the Supreme Court has made clear that the President’s power is not as absolute as the unitary executive proponents would have it.¹⁴³ For instance, the Court has upheld the existence of independent agencies whose heads are insulated from presidential removal as well as independent counsels that also exercise powers outside the President’s control.¹⁴⁴ These

137. Morton Rosenberg, *Beyond the Limits of Executive Power: Presidential Control of Agency Rulemaking Under Executive Order 12,291*, 80 MICH. L. REV. 193, 202–203 (1981).

138. See Flaherty, *supra* note 82, at 1741.

139. Abner Greene, *Checks and Balances in an Era of Presidential Lawmaking*, 61 U. CHI. L. REV. 123, 177 (1994).

140. U.S. CONST. art. II.

141. Stack, *supra* note 90, at 284.

142. *Meyers v. United States*, 272 U.S. 52 (1926) (Congress cannot limit President’s removal powers); *Bowsher v. Synar*, 478 U.S. 714 (1986) (legislative officer cannot hold executive powers); *INS v. Chadha*, 462 U.S. 919 (1983) (legislative veto is unconstitutional).

143. See source *infra* note 146.

144. *Morrison v. Olson*, 487 U.S. 654 (1988) (upholding office of the independent counsel); *Humphrey’s Executor v. United States*, 295 U.S. 602 (1935) (upholding the constitutionality of the independent agencies).

cases rebut the idea that the President can command all forms of administrative discretion. Nevertheless, President Clinton made bold claims of directory authority in order to push his agenda in the face of a recalcitrant Congress; he “treated the sphere of regulation as his own, and in doing so made it his own, in a way no other modern President had done.”¹⁴⁵ President Bush expanded on Clinton’s foundation, aggressively issuing Executive Orders and signing statements that solidify the unitary executive.¹⁴⁶

Along these lines, in January 2007, President Bush issued Executive Order (EO) 13422, which put agencies more firmly under political control.¹⁴⁷ Under EO 13422, each agency must have a presidential appointee, called a Regulatory Planning Officer (RPO), who is charged with approving all rulemakings before they begin.¹⁴⁸ Under a prior EO, RPOs reported to the head of the agency, and that agency head was charged with approving the agency’s regulatory plan.¹⁴⁹ By contrast, the new EO requires “the approval of an official loyal to the Administration before an agency takes action, [and] these changes threaten to disturb the difficult but necessary balance between politicians and experts, between politics and law, that characterizes agency rulemaking.”¹⁵⁰ When science is added to the mix, the control of a political appointee becomes even more troublesome because “objectivity, independence and transparency are central to the development of high-quality science.”¹⁵¹ Mandatory political oversight runs counter to science’s central value of disinterested inquiry.¹⁵²

In addition, certain constitutional values can suffer when the President directs scientific outcomes. A Scientist-in-Chief (even one relying on accurate science) threatens to undermine norms of public

145. Kagan, *supra* note 136, at 2281.

146. See Michael P. Allen, *George W. Bush and the Nature of Executive Authority: The Role of Courts in a Time of Constitutional Change*, 72 BROOK. L. REV. 871, 872–74 (2007) (describing actions taken by President Bush pursuant to broad assertions of executive power).

147. Exec. Order 13,422, 72 Fed. Reg. 2763 (Jan. 23, 2007).

148. *Id.*

149. See Strauss, *supra* note 21, at 701–02.

150. *Id.* See also Neal Katyal, *Internal Separation of Powers: Checking Today’s Most Dangerous Branch from Within*, 115 YALE L.J. 2314, 2323 (2006) (“By squelching bureaucracy, the President guarantees that information given to him is not the product of independent and sober thought but rather data selectively filtered by loyalists”).

151. Wendy Wagner & Rena Steinzor, *Introduction to RESCUING SCIENCE FROM POLITICS*, *supra* note 124, at 9 (2006).

152. *Id.*

participation in agency decision-making and to undervalue agency expertise in favor of presidential commitments to special interests. Although lawyers and politicians have tried to idealize science, it is not a field of objective truths. Instead, science relies on core values of honesty and transparency, given that scientific knowledge is always advancing and building upon the shoulders of others.¹⁵³ Anti-regulatory forces demand certainty before science is deemed sound, but “research by its nature is incomplete.”¹⁵⁴ Uncertainty is part of scientific inquiry, and many environmental and public health statutes acknowledge this by adopting a precautionary principle that allows regulation on the basis of anticipated harm.¹⁵⁵ By contrast, a Scientist-in-Chief who distorts science or overstates uncertainty causes further damage by making bad policy, demoralizing government scientists, and misinforming the public about important issues, which in turn, harms the democratic process because citizens end up debating with faulty information. In short, a Scientist-in-Chief runs counter to constitutional commitments to checks and balances, participatory norms, and restraints on arbitrariness.

1. Accountability

Although a Scientist-in-Chief can impinge on the constitutional values described above, the question remains whether the Scientist-in-Chief fulfills the separate values of accountability and efficiency that underlie unitary executive theory. Accountability is “the ability of one actor to demand an explanation or justification of another actor for its actions and to reward or punish that second actor on the basis of its performance or its explanation.”¹⁵⁶ Unitary executive theorists argue that presidential decision-making fosters accountability because the President has a broad, national perspective, one not shared by bureaucrats who operate within the narrow zone of their expertise.¹⁵⁷

153. Susan Haack, *Of Truth, in Science and in Law*, 73 BROOK. L. REV. 985, 998 (2008).

154. Hornstein, *supra* note 126, at 104.

155. See Sidney A. Shapiro, *OMB and the Politicization of Risk Assessment*, 37 ENVTL. L. 1083, 1087 (2007). “If uncertainty is a conventional aspect of normal science, then the abuse on the part of those who make unreasonable demands of science is in highlighting uncertainty as if it signals bad science.” See Caudill, *supra* note 127, at 198.

156. Edward Rubin, *The Myth of Accountability and the Anti-Administrative Impulse*, 103 MICH. L. REV. 2073, 2073 (2005).

157. See Lloyd N. Cutler & David R. Johnson, *Regulation and the Political Process*, 84 YALE L.J. 1395, 1405–06 (1975) (noting that regulation often involves political choices rather than solely technical decisions).

Moreover, most bureaucrats are unelected and hidden from view, while the President is directly accountable to the entire electorate.¹⁵⁸ Thus, the President is in the best position to consider how policy decisions will play out on a national stage. And, if citizens are unhappy with his decisions, they can punish or reward him at the ballot box.

However, these benefits do not necessarily accrue when a Scientist-in-Chief takes scientific decisions away from federal agencies. To be sure, the President's decisions with regard to global warming and stem cell research have been transparent to the public, and transparency is essential to accountability. Moreover, these decisions did not rely solely on science; they also raised economic, moral, and ethical questions that the President is usually in a better position to evaluate than agency scientists. Yet, the President's distortions and suppression of the science underlying his decisions misinformed the public about current scientific knowledge.¹⁵⁹ If citizens do not have accurate information, it is hard for them to hold the source accountable. One could agree with the President's policies, but still wish his justifications were honest and accurate. For instance, the President could have endorsed the science on global warming, but argued that for economic reasons, he does not support reduced emissions.¹⁶⁰ Likewise, he could have said that even though there were limited stem cell lines available for research, he simply was not going to support the creation of additional lines for ethical or moral reasons. Instead, he appears to have used science to give a false veneer of objectivity to his decision-making.¹⁶¹

The idea of accountability via the ballot box is also questionable. Scientific issues are often complex, confusing, and not easily reduced to sound bites. This means that many Americans may not be aware when politicians distort or suppress current scientific knowledge. In

158. *Id.*

159. See *supra* Part I (discussing the President's public statements about global warming and stem cells).

160. See SHULMAN, *supra* note 22, at 18 (“[B]ush Administration officials could have furthered their stance in a forthright manner.”).

161. Wagner & Steinzor, *supra* note 151, at 15 (“In the regulatory context, decision makers have often found that the best way to avoid attack is to be coy about the underlying trade-offs made in reaching a regulation: Science provides a perfect foil for obfuscating the underlying policy choices.”). As Holly Doremus has described, “The core of the problem is not the involvement of politics but its concealment behind a cloak of science.” Holly Doremus, *Science Plays Defense: Natural Resources Management in the Bush Administration*, 32 *ECOLOGY L. Q.* 249, 253 (2005).

any event, research shows that voters do not cast ballots based on how the President acts on specific policy issues.¹⁶² Rather, they elect someone who they consider like-minded, in part, so they do not have to monitor the “quotidian decisions, complex judgments, recondite bargains, and other actions” that are “beyond their . . . attention span.”¹⁶³ This is the “opposite of accountability.”¹⁶⁴ In the 2000 election, it was not clear whether or how Bush would confront these scientific decisions. During the 2000 campaign he stated that global warming was real,¹⁶⁵ and he also stated that he would end all embryonic stem cell research, a position he did not ultimately adopt.¹⁶⁶ Further, by the 2004 election, the media had reported widely on the politicization of science.¹⁶⁷ Voters conceivably could have punished the President for his scientific decisions; however, the most important factors for voters were party affiliation, foreign policy and economic priorities.¹⁶⁸ Even the most ardent supporters or vehement opponents of the President’s science decisions, those who single-handedly voted on global warming or stem cells alone, probably could not have impacted the 2004 election. For all these reasons, “intermittent, highly contested elections are simply very poor devices for holding a person accountable.”¹⁶⁹

Some might argue that presidential accountability means fulfilling the public will. The President’s “national constituency” means that he looks to the “preferences of the general public, rather than merely parochial interests.”¹⁷⁰ Yet even if you accept this view of accountability, President Bush could not justify his global warming and stem cell decisions as reflecting majoritarian preferences. For instance, a 2006 poll found that almost seven in ten Americans felt

162. See Rubin, *supra* note 156, at 2078.

163. *Id.* See also Nina A. Mendelson, *Agency Burrowing: Entrenching Policies and Personnel Before a New President Arrives*, 78 N.Y.U. L. REV. 557, 617–19 (2003) (explaining why elections do not guarantee that the President will be guided by popular preferences).

164. Rubin, *supra* note 156, at 2078.

165. See, e.g., Tom Kenworthy, *Environmental Canyon Lies Between Nominees*, U.S.A. TODAY, Nov. 3, 2000, at 13A (“Once a skeptic on whether the Earth is warming, Bush now says ‘the science proves there’s global warming.’”).

166. See Mary Leonard, *Abortion Foes See Politics in Stem-Cell Study Policy*, BOSTON GLOBE, Aug. 24, 2000, at A1 (describing Bush’s position against stem cell research).

167. See, e.g., the newspaper articles cited *supra* in notes to Part I.

168. See D. Sunshine Hillygus & Todd G. Shields, *Moral Issues and Voter Decision-Making in the 2004 Presidential Election*, POL. SCI. AND POL. 201, 207 (2005).

169. Rubin, *supra* note 156, at 2079.

170. Kagan, *supra* note 136, at 2335.

the government was not doing enough to stem global warming.¹⁷¹ Multiple polls also showed that a clear majority of Americans favor embryonic stem cell research.¹⁷² This suggests that President Bush was responding to interest group influence, rather than looking out for the public's interest. Avoidance of faction is supposed to one of the benefits of a unitary executive—not one of its dangers.¹⁷³

Even if the President's decisions were supported by polling data, one may well query whether we want a president who rules by poll—particularly when the complexities of science are added to the mix.¹⁷⁴ Science is not a matter of public opinion; its processes are entirely different. The normative structure of science “includes a shared set of goals for uncovering the truths about the natural world, the recognition that science is a social activity that demands openness and transparency of claims and evidence, and the commitment to an epistemology that embodies a standard of empirical verifiability for certifying knowledge claims.”¹⁷⁵

Accountability is better fostered when there are “multiple pressure points within the bureaucracy, a diffusion of policy making influence, public dialogue, and a general fluidity in the value structure that guides the bureaucracy's decision-making.”¹⁷⁶ Agency decision-making processes generally fulfill this vision of accountability. Agencies study external scientific research, conduct their own research, are subject to sunshine laws,¹⁷⁷ provide public notice of their proposed decisions, accept public comment on proposed rules, meet the requirements of Federal Advisory

171. *Poll: Americans See a Climate Problem*, TIME, March 26, 2006.

172. *See, e.g.*, Science and Nature, <http://www.pollingreport.com/science.htm> (last visited Feb. 7, 2009).

173. *See* Stephen G. Calabresi, *Some Normative Arguments for the Unitary Executive*, 48 ARK. L. REV. 23, 47 (1995) (“Accountability, resulting from the creation of a unitary executive, was seen as promoting faction control by making the executive clearly responsible to and representative of the interests of the whole of his national, electoral constituency”).

174. *See* William N. Eskridge, Jr. & Lauren E. Baer, *The Continuum of Deference: Supreme Court Treatment of Agency Statutory Interpretations from Chevron to Hamdan*, 96 GEO. L.J. 1083, 1177 (2008) (“Is legitimacy in our constitutional system the product of nothing but majoritarian preferences?”).

175. Sheldon Krinsky, *Publication Bias, Data Ownership, and the Funding of Science: Threats to the Integrity of Biomedical Research*, in RESCUING SCIENCE FROM POLITICS, *supra* note 124, at 61.

176. Peter M. Shane, *Political Accountability in a System of Checks and Balances: The Case of Presidential Review of Rulemaking*, 48 ARK. L. REV. 161, 212 (1995).

177. For an overview of open government legislation, see PIERCE, ET AL., *supra* note 88, § 9.4.

Committee Act, hold stakeholder and regional meetings, are subject to greater media coverage than the President, and have regular direct interaction with public.¹⁷⁸ Agencies “gather more public input and receive more public scrutiny” than the President and are also subject to judicial review.¹⁷⁹

Layered on top of these agency processes are the multiple checks that exist within the field of scientific inquiry. “The evidence with respect to scientific claims and theories is usually very complex, ramifying in every direction.”¹⁸⁰ As a result,

science often depends on the reliable working of instruments of various kinds, or on the soundness of elaborate statistical techniques or computer programs; and it is almost always the work of many people—whether collaborators or rivals, and whether working together or many miles or decades apart—who rely, explicitly or implicitly on the competence and honesty of others involved.¹⁸¹

Of course, science is subject to its own corrupting influences, but its norms embody accountability. By contrast, President Bush’s stem cell decision sidestepped a statutorily mandated process for input by an Ethics Advisory Board. His Administration’s interference with global warming science obfuscated research by creating uncertainty where there is none. It is difficult to square these decisions with any defensible notion of accountability.

2. *Efficiency*

What about efficiency? Unitary executive theorists point out that the President is uniquely situated to coordinate efforts across the federal bureaucracy.¹⁸² In addition, due to the spotlight generated by his national position, the President can center attention on a specific issue and bring energy to its resolution. In *The Federalist*, Alexander Hamilton articulated this idea: “Energy in the executive is a leading character in the definition of good government.”¹⁸³ With regard to the administrative state in particular, the Supreme Court in *Myers*

178. See Lisa Schultz Bressman & Michael P. Vandenbergh, *Inside the Administrative State: A Critical Look at the Practice of Presidential Control*, 105 MICH. L. REV. 47, 80–83 (2006); Haack, *supra* note 153, at 996.

179. Bressman & Vandenbergh, *supra* note 178, at 83.

180. Haack, *supra* note 153, at 996.

181. *Id.*

182. See Calabresi, *supra* note 173, at 37–38.

183. THE FEDERALIST NO. 70, at 471 (Alexander Hamilton) (Jacob E. Cooke ed., 1961).

endorsed the “unity and coordination in executive administration [that is] essential to effective action.”¹⁸⁴ A modern perspective links presidential control with “a number of so-called technocratic values: cost-effectiveness, consistency, and rational priority-setting.”¹⁸⁵ Thus, the notion of efficiency captures the benefits attached to a single, national leader—particularly as a way to counter the sprawl of the administrative state.

Acting as a Scientist-in-Chief, President Bush fulfilled some aspects of efficiency. He acted decisively in announcing his own scientific views and in making policy decisions based on those views. His command of the bully pulpit meant that he also focused the attention of the nation on these issues when he chose to do so. Indeed, many political commentators thought that President Bush’s stem cell decision, which followed weeks of public deliberation, was designed to paint President Bush in a favorable light as particularly thoughtful and wise.¹⁸⁶ Moreover, a positive spin on EO 13422 (putting agencies firmly under political control) is that it will coordinate agency output, reduce duplication, and give agencies better guidance.¹⁸⁷ However, the White House often gave agencies conflicting messages and orders, as a study of the EPA revealed.¹⁸⁸ Given the thousands of agency decisions being made at any time and the limited personnel capacity of the White House, the Administration’s attention to regulatory issues was haphazard, sporadic, and inconsistent.¹⁸⁹ Coordination may be a goal, but it is aspirational rather than actual. Moreover, the model of a vigorous executive “presumes an active Congress as an overseer of presidential decision-making,”¹⁹⁰ and, as is discussed below, we did not have a Congress that resisted executive aggrandizement.¹⁹¹ To the degree Framers feared “a feeble executive, [they] did not imagine an

184. See *Myers v. United States*, 272 U.S. 52, 134 (1926).

185. Kagan, *supra* note 136, at 2339.

186. See Katharine Q. Seelye with Frank Bruni, *The President’s Decision: A Long Process That Led Bush to His Decision*, N.Y. TIMES, Aug. 11, 2001.

187. Rob Portman, OMB, Memorandum for Heads of Executive Departments and Agencies, and Independent Regulatory Agencies (Apr. 25, 2007), available at <http://www.whitehouse.gov/omb/memoranda/fy2007/m07-13.pdf>.

188. See Bressman & Vandenbergh, *supra* note 178, at 94–96.

189. See *id.*

190. Katyal, *supra* note 150, at 2344.

191. See *infra* Part III.B.

executive who had ‘only’ 2.6 million employees and fifteen cabinet secretaries.”¹⁹²

Moreover, efficiency can be a double-edged sword when it comes to regulatory decisions that rely upon science. The attribute of efficiency is particularly compelling in foreign affairs, where the United States needs to speak with a single voice, and in times of emergency, where executive delay can have tragic costs.¹⁹³ However, it is not clear that efficiency should trump other constitutional values when it comes to scientific determinations, which are made through entirely different processes. Science develops within a “community of inquirers,” who share “a methodology that might include measuring instruments, theoretical frameworks, nomenclature, quantitative methods of analysis, and canonical principles for interpreting data.”¹⁹⁴ Government efficiency comes at the cost of accuracy and fairness—hallmarks of both administrative and scientific processes. Notably, when Congress designed the NIHRA grant process that applies to stem cell research, it did not want efficiency.¹⁹⁵ It wanted scientific expertise and input.¹⁹⁶ While executive coordination among agencies is desirable, the value of efficiency does not support the idea of a Scientist-in-Chief.

III. CHECKS AND BALANCES

The Scientist-in-Chief model of presidential authority does not appear to foster democratic accountability or efficiency and it can override other values, such as checks and balances, limitations on arbitrariness, and democratic participation in government. Yet, the President does not exist in a vacuum. The concentration of executive power is less dangerous if it is checked by adequate counterbalances. The Framers’ vision was a government whose branches are in tension, such that no single branch dominates. Accordingly, this Part explores the checks and balances on the Scientist-in-Chief, including the courts, Congress, federalism, and the media.

192. Katyal, *supra* note 150, at 2344–45.

193. *See id.* at 2326 (noting the need for executive dispatch in certain circumstances, but warning that this “should not preclude ex post examination of executive conduct by agencies sharing jurisdiction”).

194. Krimsky, *supra* note 175, at 63.

195. *See supra* Part II.A.2 (describing the funding process under NIHRA).

196. *Id.*

A. *The Courts*

Parties unhappy with government action often turn to the courts. However, judicial standards of review are generally deferential, and thus, it is not easy to convince a court to overturn a regulatory decision.¹⁹⁷ Under the *Chevron* doctrine, courts must defer to agency statutory interpretations that are reasonable.¹⁹⁸ Further, although an agency's factual determinations are subject to a court's "hard look," this usually requires no more than that the agency provide a reasoned explanation for its decision.¹⁹⁹ Thus, regulatory attorneys know that they need to prevail at the agency level rather than counting on a win later down the road. It is against this conventional wisdom that *Massachusetts v. EPA*,²⁰⁰ the Supreme Court's rebuke to the EPA on climate change, shocked the agency and the President.

The case began in 1999, when a coalition of environmental groups petitioned EPA to regulate greenhouse gas emissions from new motor vehicles under the Clean Air Act.²⁰¹ In 2003, EPA denied the rulemaking petition, asserting that it lacked statutory authority to regulate greenhouse gases; that the causal link between the greenhouse effect and global warming could not be "unequivocally established"; and that any regulation would be unwise for policy reasons.²⁰² The plaintiffs joined with several states and local jurisdictions and sued EPA.²⁰³ The Circuit Court for the District of Columbia upheld EPA's decision.²⁰⁴

The Supreme Court reversed. The Court rejected EPA's statutory argument, reasoning that the statutory mandate in the Clean Air Act was unambiguous.²⁰⁵ The Court further stressed fidelity to congressional design by limiting EPA's discretion to factors set forth in the statute. EPA raised a "laundry list of reasons not to regulate,"

197. See Eskridge & Baer, *supra* note 174, at 1100, 1122 (explaining that agencies win 68.8% of the time before the Supreme Court and that agency affirmance rates are even higher before the lower federal courts).

198. *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-44 (1984).

199. *Motor Vehicle Mfr. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42-43 (1983).

200. *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

201. *Id.* at 1449.

202. *Id.* at 1450-51.

203. *Id.* at 1451.

204. *Massachusetts v. EPA*, 415 F.3d 50, 58 (D.C. Cir. 2005).

205. 127 S. Ct. at 1460.

including the existence of voluntary executive branch programs, potential constraints on the President's ability to negotiate with developing nations, and avoidance of a piecemeal approach to climate change regulation.²⁰⁶ However, the Court stated that the statute did not permit these policy considerations, and thus, they could not be the basis of EPA's decision not to regulate.²⁰⁷ The Court also addressed the issue of scientific uncertainty, stating, "If the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming, EPA must say so."²⁰⁸ The Court remanded to EPA to make a scientific judgment and thus reserved ruling on the substantive issue of whether greenhouse gases "endanger public health or welfare."²⁰⁹ The Court also left for another day the degree to which policy concerns could inform EPA's actions if EPA did make an endangerment finding.²¹⁰

Jody Freeman and Adrian Vermeule have described the Court's approach in *Massachusetts v. EPA* as "expertise-forcing."²¹¹ As they explain, the Supreme Court, well aware of and concerned about the politicization of agency decision-making under the Bush Administration, became disenchanted with the accountability rationale for executive power and reinstated a divide between agencies and politics.²¹² The Court's unspoken assumption in *Massachusetts v. EPA* is that politics and science are at odds and that science needs protection from political interference. This view is in stark contrast to the assumptions that fuel *Chevron* deference. Under *Chevron*, political control of agencies is desirable because it fosters democratic accountability.²¹³ The case studies in this article likewise suggest that an expertise-forcing philosophy can lead to more meaningful accountability.

This does not mean, however, that the judicial branch alone can curb a Scientist-in-Chief run amuck. To begin with, many disputes

206. *Id.* at 1462–63.

207. *Id.* at 1463.

208. *Id.*

209. *Id.* at 1462–63.

210. *Id.* at 1463.

211. See Jody Freeman & Adrian Vermeule, *Massachusetts v. EPA: From Politics to Expertise*, 2007 SUP. CT. REV. 51, 52 (2007).

212. See *id.* at 54.

213. See *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 865–66 (1984) (the executive branch is more "directly accountable to the people").

will never reach the courts. For instance, whether due to the costs of litigation, the time commitment required, or fears of retaliation, no one has stepped forward to challenge President Bush's stem cell policy.²¹⁴ During the Clinton Administration, an evangelical group called Nightlife Christian Adoptions sued HHS to challenge President Clinton's stem cell policy.²¹⁵ However, when President Bush took office five months later, the federal district court stayed the case while HHS reviewed its research guidelines.²¹⁶ Once Bush announced his stem cell policy, the plaintiff dismissed the case.²¹⁷ The resolution of the complaint might suggest that democratic accountability works, but while politics cures some complaints, it also creates new grievances. Whose accountability matters?

Even parties who do possess the wherewithal to challenge regulatory decisions may bump up against justiciability barriers that particularly affect public law litigation, such as sovereign immunity, standing, the political question doctrine, ripeness, finality, and exhaustion.²¹⁸ Take the standing doctrine, for example.²¹⁹ Many agency decisions in the areas of health, the environment, and public welfare affect the entire population. Climate change is a paradigmatic example. Yet the Supreme Court has held that it will not "entertain citizen suits to vindicate the public's nonconcrete [sic] interest in the proper administration of the laws."²²⁰ Instead, a plaintiff needs to allege a specific, concrete, and personal injury not shared by the entire public, and further show that the injury is caused by the government action and is redressable by a favorable court decision.²²¹ The plaintiffs in *Massachusetts v. EPA* surmounted this hurdle due to the participation of Massachusetts.²²² As a sovereign, rather than a private individual, Massachusetts had a "special position and interest" in protecting its coastal land from rising waters caused by global

214. See Heled, *supra* note 56, at 124.

215. Complaint for Declaratory and Injunctive Relief at 2, Nightlight Christian v. Thompson, No. 1.01-CV-00502 (D.D.C. dismissed Jan. 15, 2002).

216. *Id.*

217. Christian Legal Society, *Victory Achieved in Nightlight Christian Adoptions v. Tommy G. Thompson*, Oct. 27, 2003, http://www.clsnet.org/clrfPages/litigation/litigation_Nightlight.php.

218. See generally PIERCE, ET AL., *supra* note 88, at 118–220.

219. Lujan v. Defenders of Wildlife, 504 U.S. 555, 560 (1992).

220. *Id.* at 581 (Kennedy, J., concurring).

221. See *id.* at 560–61 (majority opinion).

222. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1453–59 (2007).

warming.²²³ While the dissent bemoaned the relaxation of Article III standing requirements for states,²²⁴ it seems that neither the majority nor the dissent would have found standing in the absence of a state plaintiff.²²⁵ And, of course, states do not always have an independent interest in or desire to challenge federal agency action.

In addition, agencies are now on notice that they need to provide reasoned explanations for their decisions.²²⁶ This does not mean, however, that politics will not play a role in agency decisions. Agencies may simply hide politics behind science. Moreover, given agencies' scientific expertise relative to courts, courts are often reluctant to second-guess the scientific determinations of agencies. Deference to agency expertise seems appropriate, but it does open the door for politics to get dressed up in the guise of science—which is exactly how President Bush justified his policies on stem cells and climate change. Right now, EPA cannot really argue with a straight face that climate change science is uncertain, but less prominent scientific issues might be more manipulable.

Finally, even if a party gets a court to reach the merits, this does not mean that politics will be vanquished. We need only look at EPA's response to *Massachusetts v. EPA* to see that the Bush White House continued to call the shots. After the case was decided, EPA resisted taking the action demanded by the Supreme Court and the mandate of the Clean Air Act remained unfulfilled during the Bush Administration.²²⁷

B. Congress

Congress did not act as a significant check on the Bush Administration's politicization of science, although Democratic members of Congress investigated and aired the issue.²²⁸ In 2007, Representative Henry Waxman (D-Cal.), as Chair of the House

223. *Id.* at 1454.

224. *Id.* at 1464 (Roberts, J., dissenting).

225. The rationale for the Court's standing holding remains ambiguous. See Bradford Mank, *Should States Have Greater Standing Rights Than Ordinary Citizens?* *Massachusetts v. EPA's New Standing Test for States*, 49 WM. & MARY L. REV. 1701, 1704 (2008) ("The Court . . . failed to explain to what extent or when states are entitled to more lenient standing").

226. 127 S. Ct. at 1463 (majority opinion) (requiring that EPA make a "reasoned judgment" about "whether greenhouse gases contribute to global warming").

227. See *supra* notes 48–55 and accompanying text.

228. See Richard Simon, *Waxman Prods White House for Climate Documents*, WASH. POST, Jan. 31, 2007, at A19 (describing hearings).

Oversight and Government Reform Committee, spearheaded a congressional investigation into allegations that the Bush Administration interfered in climate change science.²²⁹ The Committee held public hearings, conducted witness interviews and depositions, subpoenaed agency documents, and ultimately released a report accusing the Administration of engaging “in a systematic effort to manipulate climate change science and mislead policymakers and the public about the dangers of global warming.”²³⁰ Previously, in 2003, when the Republicans controlled the House, Waxman requested that the minority staff of the Committee look into the treatment of science and scientists across the federal bureaucracy.²³¹ That report similarly concluded, “The Administration’s political interference with science has led to misleading statements by the President, inaccurate responses to Congress, altered web sites, suppressed agency reports, erroneous international communications, and the gagging of scientists.”²³² Following each report, the White House and Republican committee members dismissed the charges as partisan politicking.²³³

Despite Representative Waxman’s tackling of this issue, Congress as an institution did not take firm action against the alleged scientific shenanigans,²³⁴ just as it did not rein in the aggrandizement of executive power related to the War on Terror.²³⁵ Indeed, one of the

229. See Comm. on Oversight & Gov’t Reform, U.S. House of Reps., Committee Examines Political Interference with Climate Science, Mar. 19, 2007, <http://oversight.house.gov/story.asp?ID=1214>.

230. COMM. ON OVERSIGHT & GOV’T REFORM, U.S. HOUSE OF REPS., POLITICAL INTERFERENCE WITH CLIMATE CHANGE SCIENCE UNDER THE BUSH ADMINISTRATION i (Dec. 2007), available at <http://oversight.house.gov/documents/20071210101633.pdf>.

231. SPECIAL INVESTIGATION DIV., COMM. ON GOV’T REFORM—MINORITY STAFF, U.S. HOUSE OF REPS., POLITICS AND SCIENCE IN THE BUSH ADMINISTRATION, i (Aug. 2003, updated Nov. 13, 2003), available at http://oversight.house.gov/features/politics_and_science/pdfs/pdf_politics_and_science_rep.pdf.

232. *Id.*

233. See *Democrats’ Report Hits Bush on Climate Policy*, WASH. POST, Dec. 11, 2007, at A04 (Republicans call report a “partisan diatribe”).

234. See, e.g., Holly Doremus, *Data Gaps in Natural Resources Management: Sniffing for Leaks Along the Information Pipeline*, 83 IND. L.J. 407, 437 (2008) (discussing congressional attempts to improve dissemination of national resources silence).

235. See Katyal, *supra* note 150, at 2316 (“[L]egislative abdication is the reigning modus operandi. It is often remarked that ‘9/11 changed everything’; particularly so in the war on terror, in which Congress has been absent or content to pass vague, open-ended statutes.”); Marc C. Rahdert, *Double-Checking Executive Emergency Power: Lessons from Hamdi and Hamdan*, TEMP. L. REV. 451, 456 (2007) (“So far in the war on terror, Congress has shown a disinclination to assume an active limiting role”).

Administration's defenses of its climate change policy was that Congress should be legislating on climate change rather than leaving it to the executive branch.²³⁶ There is Supreme Court precedent for such an argument, arising in cases in which the Court has essentially adopted a non-delegation doctrine for hot button issues of the day.²³⁷ Thus, the Supreme Court has struck down executive branch attempts to regulate assisted suicide and to ban tobacco without clear direction from Congress.²³⁸

Thus, a charitable reading of the Administration's failure to regulate on climate change is that it is Congress's job to do so. The counter-argument—as set forth by the Supreme Court—is that Congress already did its job when it enacted the Clean Air Act. Regardless, if the Administration truly felt it lacked power to regulate greenhouse gases, it would not have been necessary for executive officials to edit and distort climate change science. The pattern of interference suggests that the Administration hoped to forestall mandatory emission reductions by sowing confusion over the issue and limiting the influence of environmental groups. At the same time, Congress's lack of express action over climate change left the door open for the White House to seize control of the issue.

With regard to stem cell research, Congress tried to pass various stem cell related bills; most would have reversed President Bush's policies,²³⁹ while other bills would have restricted stem cell research further.²⁴⁰ For instance, in 2006 and 2007, Congress passed the Stem Cell Research Enhancement Act, which would have permitted stem cell research on human embryos donated from in vitro fertility clinics with the consent of the donors "regardless of the date on which the

236. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1460 (2007) (EPA argued that Congress did not intend EPA to regulate greenhouse gases).

237. *See, e.g., FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 160 (2000) ("[W]e are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion."); *Gonzales v. Oregon*, 546 U.S. 243, 246 (2006) ("The idea that Congress gave the Attorney General such broad and unusual authority through an implicit delegation in the CSA's registration provision is not sustainable").

238. *Brown & Williamson Tobacco Corp.*, 529 U.S. at 161 (holding that the FDA cannot assume authority to regulate tobacco); *Gonzales*, 546 U.S. at 265 (holding that the Attorney General does not have authority to regulate assisted suicide).

239. *See* the bills cited in Heled, *supra* note 56, at 86 n.121.

240. *See* Janet L. Dolgin, *Surrounding Embryos, Biology, Ideology, and Politics*, 16 HEALTH MATRIX 27, 53–54 (2006) (describing competing bills).

stem cells were derived.”²⁴¹ President Bush vetoed these bills²⁴² and Congress could not muster the two-thirds majority needed to override the vetoes.²⁴³

As this demonstrates, it is not easy for Congress to check specific exercises of presidential power because the transaction costs are so high.²⁴⁴ Moreover, gathering a super-majority that can override a presidential veto is difficult, because a small group of presidential loyalists can usually ensure defeat. Thus, it is generally easier for Congress to check executive power via its informal control over administrative agencies than through lawmaking.²⁴⁵ Congress creates agencies, designs them, sets their funding, and the Senate confirms political appointees.²⁴⁶ Congress also conducts oversight through information requests, reporting requirements, informal contacts with agency officials, hearings, and investigations.²⁴⁷

Of course, Congress competes with the President to control agencies. In his arsenal, the President can command the public’s attention, review agency agendas, set budgetary priorities, and appoint and remove agency heads with the resultant loyalty of officials throughout the bureaucracy.²⁴⁸ Particularly if the President is directing agency outcomes, he can diminish the impact of congressional oversight because the threat of removal can be more powerful than that of the purse. Indeed, Congress’s power of the purse may be overstated in certain circumstances. If the government is under-regulating, taking money away from an agency only

241. Heled, *supra* note 56, at 87 n.126 (“Despite the fact that the first session of the 109th Congress was clearly Republican, the Stem Cell Research Enhancement Act of 2005 passed by a majority of 238-194 in the House of Representatives, and 63-37 in the Senate”).

242. Press Release, White House, Message to the House of Representatives, 2006 WL 2007324 (July 19, 2006); Press Release, White House, President Bush Discusses Stem Cell Veto and Executive Order, 2007 WLNR 11640195 (June 20, 2007).

243. See Jordan Saltzberg, *The Current Embryonic Stem Cell Research Federal Funding Policy: Undue Respect to Minority Ethical Considerations?*, 29 J. LEGAL MED. 505, 510 (2008) (describing proposed legislation and presidential vetoes).

244. Political scientists Terry Moe and William Howell explain why Congress, constituted by hundreds of members each beholden to different bounded constituencies, faces immense transaction costs to overturn presidential action. Terry M. Moe & William G. Howell, *The Presidential Power of Unilateral Action*, 15 J.L. ECON. & ORG. 132, 133 (1999).

245. See Kagan, *supra* note 136, at 2256–60 (describing various models of congressional control over agencies).

246. See Jack Beerman, *Congressional Administration*, 43 SAN DIEGO L. REV. 61, 69–71 (2006).

247. *Id.*

248. See PIERCE ET AL., *supra* note 88, at 81.

compounds the problem—Congress has to cut off its nose to spite its face. Given these competing tensions, it is not surprising that the politicization of science captured the attention of Democratic congresspersons, but did not produce significant legislative pushback.

C. States

The most effective check on the Scientist-in-Chief did not come through the separation of powers, but through federalism. Several states rejected the scientific conclusions of the Bush Administration and countered with their own, generally more progressive, policies.²⁴⁹ States developed their own stem cell policies, limited greenhouse gas emissions, and sued the federal government over its climate change policies.²⁵⁰ In addition, many states were “developing renewable energy portfolio standards; working to restore and better manage major watersheds and water resources . . . and enacting mercury emissions standards more stringent than current federal levels.”²⁵¹ This state-level activity, taken by states both individually and in regional coalitions, stirred up a long-standing debate as to which level of government is in the best position to regulate public health and the environment.²⁵²

On the one hand, federal level policymaking is more uniform and creates efficiencies because regulated parties do not have to accommodate a fifty state patchwork of policies.²⁵³ Moreover, the federal government has greater financial resources and expertise, and certain nationwide problems simply cannot be solved by smaller sub-units of government.²⁵⁴ On the other hand, proponents of state-level action assert that states are filling a federal vacuum, are closer to the

249. See e.g., Kaswan, *supra* note 35, at 46–60 (describing state and local global warming initiatives).

250. See *infra* text accompanying notes 263–73.

251. See Darren Springer, *How States Can Help to Resolve the Rapanos/Carabell Dilemma*, TUL. ENVTL. L.J. 83, 83–84 (2007).

252. The seminal article is Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977) (arguing in favor of federal responsibility for environmental regulation), and the leading response is Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the Race-to-the-Bottom Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210 (1992) (arguing that the race-to-the-bottom theory is incorrect).

253. See Robert B. McKinstry, Jr. & Thomas D. Peterson, *The Implications of the New “Old” Federalism in Climate-Change Legislation: How to Function in a Global Marketplace When States Take the Lead*, 20 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 61 (2007).

254. See Kaswan, *supra* note 35, at 64.

citizens they serve, operate more efficiently because they tailor solutions to regional specifics, and serve as laboratories for policy experimentation that can spur federal action.²⁵⁵ This federalism debate generally does not capture an additional attribute of state level policymaking—for better or worse, states can serve as a check on presidential exercises of directory authority. For political and judicial conservatives, who generally favor a unitary executive as well as states' rights, this new trend raises an interesting conflict.

In the area of stem cell research, California and New Jersey responded to President Bush's policy by enacting laws in 2004 permitting stem cell research that is currently forbidden with federal funds.²⁵⁶ Californians even passed a voter referendum allocating \$3 billion in state funds for cell research over the next ten years.²⁵⁷ The statutes in both states stress the economic and medical benefits generated by support for biomedical research.²⁵⁸ Other states, including Illinois, Connecticut, Iowa, Massachusetts, New York, Indiana and Maryland, have also authorized state funding for stem cell research.²⁵⁹

States have been even more pro-active on the issue of global warming in the face of perceived federal intransigence, with California as the leader. In July 2002, California passed a statute requiring automakers to reduce vehicular emissions from all cars sold in the state.²⁶⁰ Twelve states subsequently adopted California's standards, but in December 2007, after much delay, EPA denied California the waiver needed to implement its laws, contending that national standards were needed and that the state laws were

255. See McKinstry & Peterson, *supra* note 253, at 87–89.

256. See, e.g., N.J. Rev. Stat. § 26:2Z-1 (2004) (New Jersey); CAL. HEALTH & SAFETY CODE § 125300 (2004) (California).

257. California Stem Cell Research and Cures Act, 2004 Cal. Legis. Serv. Prop. 71 (West). In November 2007, New Jersey voters rejected a measure that would have permitted the state to borrow \$450 million for stem cell research. See David W. Chen, *New Jersey Voters Defeat Stem Cell Measure*, N.Y. TIMES, Nov. 7, 2007, at B1.

258. See N.J. Rev. Stat. § 26:2Z-1 (2004) (New Jersey); CAL. HEALTH & SAFETY CODE § 125300 (2004) (California).

259. Nat'l Conference of State Legislatures, Stem Cell Research, <http://www.ncsl.org/programs/health/Genetics/embfct.htm> (last visited Mar. 7, 2009); Jodi Rudoren, *Stem Cell Work Gets States' Aid After Bush Veto*, N.Y. TIMES, July 25, 2006, at A1, A16. At the same time, a few states have enacted laws more stringent than Bush's policy, outlawing any forms of research on embryonic stem cells, regardless of when the lines were derived.

260. See Kaswan, *supra* note 35, at 48.

preempted by federal efforts.²⁶¹ Thus, none of the states could move forward with these automobile emission standards.

Nevertheless, states have been working to reduce emissions in other economic sectors. By mid-2007, seventeen states had implemented targets for reducing greenhouse gas emissions.²⁶² For instance, California Governor Schwarzenegger issued an executive order that orders a reduction in the state's greenhouse gas emissions to 80% below 1990 levels by 2050.²⁶³ The California legislature passed the Global Warming Solutions Act of 2006, which would reduce emissions to 1990 levels by 2020 via direct controls over energy producers, market measures, and incentive systems.²⁶⁴ The state legislators were persuaded that these tougher controls would "increase state revenues by four billion dollars and bring eighty thousand new jobs" to the state.²⁶⁵ Similarly, there are three regional coalitions in which states have banded together and committed to regional emission caps.²⁶⁶ These state-level initiatives face possible preemption and dormant commerce clauses challenges,²⁶⁷ but regardless, they have helped to eliminate "scientific uncertainty" from public discourse. Finally, several states turned to the federal judicial branch and sued EPA over its failure to regulate greenhouse gas emissions in the lawsuit that culminated in *Massachusetts v. EPA*. Thus, states have used both their executive and legislative powers, as well as the federal judiciary, to resist Bush Administration policies.

D. Media

As the footnotes to this Article amply demonstrate, the media took an active interest in the Bush Administration's politicization of science. Major newspapers printed exposes and authors wrote lengthy books about the subject. At the same time, politicians and

261. See Maynard, *supra* note 53.

262. See Kevin L. Doran, *U.S. Sub-Federal Climate Change Initiatives: An Irrational Means to a Rational End?*, 26 VA. ENVTL. L.J. 189, 209 (2008) (noting that states have acted via several methods, including executive orders, legislation, and press releases).

263. See Kaswan, *supra* note 35, at 53.

264. See *id.* at 55, 58. The states are also suing various industries under a nuisance theory. *Id.* at 91–93.

265. See Dale Bryk, *States Tackle Global Warming*, 7 SUSTAINABLE DEV. L. & POL'Y 53, 53 (2007).

266. See Kaswan, *supra* note 35, at 58.

267. See McKinstry & Peterson, *supra* note 253, at 92–109 (analyzing challenges to state authority to limit greenhouse gas emissions).

scientists used media outlets to air their attacks and counter-attacks. Part of the unfolding story was the Bush Administration's attempts to prevent certain scientific findings from reaching the media.

Media coverage had some impact. Administration officials, such as Philip Cooney, resigned after the media spotlighted their incompetence and meddling.²⁶⁸ Media reports spurred some government agencies to conduct internal investigations that generated new policies to protect agency scientists and promote transparency.²⁶⁹ Thus, the media clearly enhanced accountability by reporting on the politicization of science.

At the same time, the media's ability to enforce accountability is limited because it needs to rely heavily on sources working within the federal government. Several whistleblowers reported alleged Administration abuses and others quit their positions to make a public statement of their dissatisfaction.²⁷⁰ However, this also means that if people are reluctant to come forward, we may never hear their stories. Many instances of White House involvement in agency decision-making are conducted out of public sight.²⁷¹ An in-depth study of White House control over EPA showed that 97% of White House involvement over agency decisions was not visible or only somewhat visible to the public.²⁷² Moreover, despite the flow of stories reporting White House meddling, interference, censorship, and distortion in agency decision-making, the Administration's policies on climate change and stem cells remained the same. Thus, while the media can present the story to the public, it remains up to other governmental branches and the public to do something about it. During the Bush Administration, the states have took the lead.

CONCLUSION

Critics of President Bush allege that his Administration regularly distorted and suppressed science. The politicization of science raises not only the issue of dishonesty, but also whether the President can

268. See *supra* notes 45–46 and accompanying text.

269. See Andrew C. Revkin, *NASA Office Is Criticized on Climate Reports*, N.Y. TIMES, June 3, 2008.

270. See, e.g., newspaper articles cited *supra* in notes 6 and 11.

271. See Eskridge & Baer, *supra* note 174, at 1176 (the White House involvement in science “has been conducted through backdoor (therefore hard to detect) influences on more formal decisionmaking processes.”); Bressman & Vandenberg, *supra* note 178, at 92 (“White House involvement should be more transparent”).

272. See Bressman & Vandenberg, *supra* note 178, at 78.

substitute his choices for those of agency policymakers, thereby acting as a Scientist-in-Chief. A President who distorts science can make bad policy, demoralize government scientists, impede scientific progress, and misinform the public about policy issues. In turn, this undermines the democratic process because citizens debate issues and cast votes based on faulty information. However, even if the President was honest about science, and even if he got the science right, we may still prefer that agencies make the policy decisions entrusted to them by Congress. Agencies are experts in the areas they regulate, they allow public participation and input, and they are subject to checks by all three branches of government. The primary justifications for unilateral presidential control of agencies are efficiency and accountability. However, efficiency is not always conducive to good policymaking, which requires deliberation, accuracy, and fairness. Moreover, presidential elections are poor guarantors of accountability, especially on complex scientific issues. It is hard to build a case for a Scientist-in-Chief. And it is even harder to restrain one.