

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, MARCH 19, 2006, at A1.

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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.

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

Unitary executive theory suggests that voters have gotten what

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. T.* Ts37

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 Guid.* 904ei144 25

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

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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

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)).

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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 con9e

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

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

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,

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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 en5As conW5nTcS0.0f.0057h cM8.79p1 guctu

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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

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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

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.*

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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

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

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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).

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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 budgetary priorities, and the resultant loyalty of particularly if the President is diminish the impact of of removal can be more Congress’s power of the stances. If the government from an agency only

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.

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

