2005

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O. Carter Snead
Notre Dame Law School, snead.1@nd.edu

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The Pedagogical Significance of the Bush Stem Cell Policy: A Window into Bioethical Regulation in the United States

O. Carter Snead, J.D.*

The enormous significance of the Bush stem cell funding policy has been evident since its inception. The announcement of the policy on August 9, 2001 marked the first time a U.S. president had ever taken up a matter of bioethical import as the sole subject of a major national policy address. Indeed, the August 9th speech was the President's first nationally televised policy address of any kind. Since then, the policy has been a constant focus of attention and discussion by political commentators, the print and broadcast media, advocacy organizations, scientists, elected officials, and candidates for all levels of office (including especially the 2004 Democratic nominee for President, Senator John Kerry, who made his opposition to the Bush policy a centerpiece of his domestic campaign, mentioning it explicitly in his acceptance speech at the Democratic National Convention). The biotechnology industry has taken a keen

* General Counsel, The President's Council on Bioethics. The author would like to thank the Yale Journal of Health Policy, Law, & Ethics for soliciting this contribution. Special thanks also to Michelle Powers, Yuval Levin, Eric Cohen, John A. Ritsick, and Leigh Fitzpatrick Snead for their comments and support. All views expressed in this Essay are the author's own and are not meant to reflect the official position of the Council or the United States government.


2. There have been a number of Congressional hearings illustrating the prominence of the issue. See Embryonic Stem Cell Research: Exploring the Controversy: Hearing Before the Senate Commerce Subcomm. on Science, Technology & Space, 108th Cong. (2004); Adult Stem Cell Research: Hearing Before the Senate Commerce Subcomm. on Science, Technology & Space, 108th Cong. (2004); Hearing on Advances in Adult and Non-Embryonic Stem Cell Research: Hearing Before the Senate Commerce Subcomm. on Science, Technology & Space, 108th Cong. (2004); Opportunities and Advancements in Stem Cell Research: Hearing Before the Subcomm. on Criminal Justice, Drug Policy & Human Research of the Comm. on Government Reform, 107th Cong. (2002); see also Laurie McGinley, Stem-Cell Research Stirs Passionate Debate and Changing Politics, WALL. ST. J., July 9, 2001, at A30 (describing efforts of various advocacy organizations and
interest in stem cell research as a possible avenue for medical therapies; one study suggests that as of 2002 private sector companies had spent an aggregate of $208 million on research and development of stem cell technologies. In response to the policy, there has been a flurry of state legislation proposed and enacted, with some states affirming and others condemning the Administration’s approach. Finally, the great prominence of the national and international debate on human cloning has drawn further attention to the issue of embryonic stem cell research (and by extension, the Bush policy), given that one application of somatic cell nuclear transfer is the production of cloned human embryos from which stem cells may be derived (so-called “Therapeutic Cloning”).

To date, the significance of the Bush stem cell policy has been framed and publicly debated in terms of its practical import: Does it impede the scientific and medical progress that the research seems to promise? Is it adequately protective and respectful of embryonic human life? Aside from its great practical significance, however, the Bush policy is arguably one of the most important recent legal developments for the field of bioethics for an additional reason: its deep pedagogical significance. The Bush policy provides an unparalleled window into the nature and substance of “bioethical regulation” within the unique framework of the American system of government. And it does so in dramatic fashion, against the backdrop of some of the most enduring and vexing questions in all of bioethics: What is owed to developing human life, and how does this

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obligation stand in relation to the aim of science to advance knowledge with the ultimate aspiration of alleviating human suffering? Reflecting on the nature and scope of the policy yields insights into a number of crucial matters that are central to the problem of whether and how to govern science and medicine according to bioethical principles. This Essay will briefly explore five areas in which the Bush policy is thus instructive: (1) the conceptual understanding of "regulation" as a legal category; (2) the principles of federalism; (3) the significance of federal funding; (4) the nature of governance according to a particular type of moral principle (e.g. "bright line"); and (5) the influence of political prudence and respect for pluralism.

I. THE BUSH POLICY

Before proceeding to a discussion of the lessons of the Bush policy, it is useful to articulate briefly the contours of the policy itself. To understand the current policy in its full context, one needs a brief account of the federal government's historical role in the regulation of human embryo research. In 1975, a federal rule was enacted providing that "[n]o application or proposal involving human in vitro fertilization may be funded by the Department [of Health and Human Services] [until it] has been reviewed by the Ethical [later "Ethics"] Advisory Board and the Board has rendered advice as to its acceptability from an ethical standpoint." In 1979, the Ethics Advisory Board (EAB) issued a report concluding that it is ethically acceptable to provide federal funding for embryo research under certain circumstances. The Department did not act on this recommendation, however, and the charter of the EAB expired in 1980. Thereafter, the EAB was not reconstituted, though the federal rule requiring EAB approval for federal funding for any research involving in vitro embryos remained in effect. The result was a de facto moratorium on federal funding for research involving human embryos until 1993, when Congress (acting at the insistence of the newly elected Clinton Administration) rescinded the EAB approval requirement, effectively clearing the way for the federal funding of embryo research. Before any proposals were funded, however, the newly elected Congress intervened,
attaching language to the 1996 Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Act that formally precluded the use of federal funds for "the creation of a human embryo or embryos for research purposes; or [for] research in which a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death greater than that allowed for research on fetuses in utero" under the controlling human subjects protection regulations. This language (known as the "Dickey Amendment," after its original sponsor) has been re-enacted in every HHS appropriations bill since 1996.

Three years later, in the wake of widespread enthusiasm and excitement in the scientific community over the first reported isolation of human embryonic stem cells, the General Counsel of the Department of Health and Human Services urged an interpretation of the Dickey Amendment that would allow for federal funding of research involving embryonic stem cells. The General Counsel argued that because the Dickey Amendment only precluded the provision of federal funding to research in which embryos were destroyed, it would be legally permissible to authorize federal funding for researchers who worked with stem cells acquired from embryos that had been destroyed with only private funding. Supporters of the Dickey Amendment, including Representative Dickey himself, strenuously objected to this interpretation, arguing that it contradicted the spirit of the federal law by allowing the use of public funds in a way that would create incentives for the destruction of embryonic human life. Secretary Shalala and President Clinton rejected this critique, and made preparations for the federal funding of embryonic stem cell research. Before the Clinton funding policy was implemented, however, President Bush was elected.

10. Memorandum from Harriet S. Raab, General Counsel of the Department of Health and Human Services, to Harold Varmus, Director of the National Institutes of Health, Federal Funding for Research Involving Human Pluripotent Stem Cells (Jan. 15, 1999) (on file with the National Archives).
11. See id.
12. See Letter from Representative Jay Dickey, to Secretary of Health and Human Services Donna E. Shalala (Feb. 11, 1999) (on file with author) (signed by seventy members of Congress).
Against the backdrop of this twenty-five year history, President Bush was confronted with the question of whether and how to fund stem cell research. President Bush accepted the legal analysis of the former HHS General Counsel, but pursued a policy that sought to combine that analysis with the principle animating the Dickey Amendment, namely, that human life is worthy of profound respect at all of its developmental stages (from zygote to adult), and therefore, at the very least, the federal government should not provide financial incentives for its destruction, even for the sake of beneficial scientific research. President Bush thus formulated a stem cell funding policy that would, in his words, "aggressively promote stem cell research" without violating his aforementioned principle of respect for human embryonic life. In practice, the Bush policy authorizes federal funding for all forms of stem cell research that do not create incentives for the destruction of human embryos. Accordingly, research using stem cells derived from non-embryonic (commonly referred to as "adult") sources (e.g., from bone marrow, umbilical cord blood, etc.) are subject to unlimited funding, as the derivation of these cells does not cause significant or lasting harm to the donor. Similarly, federal funding is authorized for research on those human embryonic stem cell lines derived prior to the date of the announcement of the policy (provided that they were obtained in a manner that observed the traditional standards of research ethics— informed consent of the donor, etc.). So as not to encourage future destruction of human embryos, no federal funding is permitted for research on embryonic stem cell lines derived after August 9, 2001. For fiscal year 2003, the Bush Administration, through NIH, allocated $190.7 million for adult stem cell research, and $24.8 million for

15. Id.
16. See id. ("Federal funding for research on existing stem cell lines will move forward; federal funding that sanctions or encourages the destruction of additional embryos will not.").
17. There are seventy-eight such lines that are "eligible" for federal funding. However, before a stem cell line becomes "available" for use and distribution, it must be grown into a stable cultured population (a scientific process) and the relevant "Material Transfer Agreements" must be negotiated and executed (a legal process). In the summer of 2002, only one of the eligible lines was available. In the fall 2003, that number rose to twelve. As of August 2004, there are twenty-two lines available for use and distribution. See Nat’l Insts. of Health, Information on Eligibility Criteria for Federal Funding of Research on Human Embryonic Stem Cells, at http://stemcells.nih.gov/research/registry/eligibilitycriteria.asp (last modified Aug. 11, 2004).
embryonic stem cell research. Additionally, the NIH, acting at the behest of the Bush Administration, has created a “Stem Cell Task Force” which seeks to “accelerate the pace of stem cell research by identifying the rate limiting resources (both material and human) and [to] develop initiatives to enhance these resources.” The Bush policy imposes no restrictions on privately funded embryonic stem cell research; indeed the Administration clarified a previously enacted administrative rule so as to make it simpler for otherwise federally-funded scientists and institutions to pursue embryonic stem cell research using private funds.

II. THE PEDAGOGICAL SIGNIFICANCE OF THE BUSH POLICY

What, then, is the pedagogical significance of the Bush policy? As noted above, a careful consideration of the policy’s scope and substance yields at least five different (yet related) insights into the nature of bioethical regulation in the United States. Each will be discussed separately.

A. “Regulation” as a Legal Concept

The first lesson is that “regulation” is a complex and multifaceted concept in American law. Regulation is not simply a matter of proscription and permission. Rather, it is a spectrum of legal activity by which the government can voice (or not voice, as the case may be) the values and priorities of the polity. At one end of the spectrum lies prohibition, in which the government forbids a given activity. The most obvious and dramatic example of this form of regulation is criminal proscription. At the other end lies affirmative encouragement, whereby the government

18. See U.S. Dep’t of Health & Human Servs., HHS Fact Sheet: Embryonic Stem Cell Research (July 14, 2004), at http://www.hhs.gov/news/press/2004pres/20040714b.html [hereinafter HHS Fact Sheet]. This marks the first time in history that federal funds have been allowed for research that requires the destruction of human embryos.

19. Nat’l Insts. of Health, NIH Stem Cell Task Force, at http://stemcells.nih.gov/policy/taskForce/ (last modified Oct. 28, 2004). Such initiatives have included grants and awards for infrastructure and training to improve distribution and development of approved cell lines and programs to train researchers in areas such as culture techniques. More recently, the NIH announced plans to open a “National Embryo Stem Cell Bank” for approved lines, in an effort to increase their availability to researchers. See Letter from Secretary of Health and Humans Services Tommy G. Thompson, to Representative J. Dennis Hastert, Speaker, U.S. House of Representatives (July 14, 2004) (on file with author); see also HHS Fact Sheet, supra note 18.

20. See HHS Fact Sheet, supra note 18.
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rewards behavior that the polity deems worthwhile and useful. The most obvious example of this form of regulation is the provision of government funding. In between these poles of prohibition and encouragement lie myriad mechanisms by which the government speaks, including, among other things, recordkeeping (showing the government’s view that “attention must be paid”), silence (signifying governmental permission without explicit endorsement), and permission with conditions (signaling a qualified endorsement of the underlying activity, with acknowledgement that some measure of oversight is required).

The Bush policy vividly illustrates the complexity of “regulation” as a legal concept by incorporating elements from across this spectrum. The policy adopts a posture of silence toward privately sponsored stem cell research that involves the destruction of human embryos, signaling the federal government’s permission without explicit endorsement of this practice. At the same time, it provides significant financial incentives for stem cell research that does not involve the present and future destruction of human embryos, showing the federal government’s endorsement and approval of this species of research. The significance of federal funding is further expanded and amplified in Section II.C.

B. Principles of Federalism

The Bush policy further illustrates how matters of federalism—both horizontal\(^1\) and vertical\(^2\)—are implicated in the context of bioethical governance. Principles of horizontal federalism play an important role in the formulation and implementation of public policy that touches and concerns bioethics. In making such policy, each co-equal branch must act within the boundaries of its own enumerated powers, while respecting the prerogatives and domains of the others. This process is brought into sharp relief by a reflection on the Bush policy’s origins and operation, described above. The Bush policy was written against the backdrop of the nearly thirty-year history of give and take between the executive and legislative branches over the question of federal funding for embryo research. As discussed previously, this inter-branch dialogue culminated in the enactment of the Dickey Amendment, whereby the legislative branch,


\(^{22}\) “Vertical federalism” denotes the relationship between the federal government and state governments. See id. at 552.
acting pursuant to its constitutionally enumerated spending power, formally proscribed the use of federal funds for research in which human embryos are destroyed or discarded. In formulating a policy governing stem cell research and its funding, the Bush Administration (like the Clinton Administration before it) was required to work within the framework provided by Dickey out of respect for the federalist principle of separation of powers. The Bush policy accepted the Clinton Administration's refined interpretation of Dickey, but chose a policy that upheld a broad conception of the principle of respect for embryonic human life that provided the foundation for the original amendment. Thus, the Bush policy demonstrates both an acknowledgement of Congress's sole authority to appropriate federal funds and a robust exercise of the President's authority as head of the executive branch to allocate the appropriated funding according to the Administration's priorities.

In similar fashion, reflection on the Bush policy lends key insights into principles of vertical federalism in the context of bioethical governance. In enacting public policy, both state and federal governments are limited by their respective jurisdictional mechanisms. By virtue of the general police power to safeguard the health, welfare, and morals of citizens, states enjoy wide latitude to legislate according to bioethical principles. By contrast, the federal government is somewhat more limited in its options, consigned to act only pursuant to powers enumerated by the Constitution. This division of responsibility allows in some cases for action and reaction between and among the federal and state governments.

Such is the case with the Bush policy. The Bush policy illustrates the use of the jurisdictional nexus of federal spending: The Administration is able to set ethical conditions on those practices to which it provides financial assistance, while remaining silent (and thus uninvolved) with respect to privately funded stem cell research. This leaves the state governments free to affirm or reject the policy within their own borders.

23. See, e.g., Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 203 (1824) ("Inspection laws, quarantine laws, health laws of every description, as well as laws for regulating the internal commerce of a State . . . . No direct general power over these objects is granted to Congress; and, consequently, they remain subject to State legislation."); see also Washington v. Glucksberg, 521 U.S. 702 (1997) (upholding assisted-suicide ban as rationally related to legitimate state interest).

Many states have taken this opportunity. On one end of the spectrum, there are states such as Louisiana, which bans destructive embryo research altogether. On the other end of the spectrum, there are states such as New Jersey and California, which have explicitly endorsed embryonic stem cell research and cloning for biomedical research.

C. The Significance of Federal Funding

The Bush policy also offers noteworthy lessons regarding the nature and significance of federal funding. The U.S. government is a major provider of funds and resources for scientific and medical research. This is reflective of the esteem in which the American polity holds the scientific enterprise, as well as its great concern for the alleviation of human suffering. Federal funding has long played a significant role in the regulation of medicine and science according to bioethical principles. In the first instance, it is a jurisdictional nexus, allowing for the regulation of activities that might otherwise lie beyond the enumerated powers of the federal government by attaching certain conditions to the provision of funds. But perhaps more importantly for the present discussion, federal funding is a powerful device whereby the government expresses the polity’s approval, disdain, or studied neutrality toward specified conduct. The government is under no obligation to provide federal funding for most activities—including those activities in which individuals may engage as a matter of constitutional right. Thus, the provision of federal funding can

25. See LA. REV. STAT. ANN. § 9:129 (West 1986). It is important to note, however, that Louisiana defines “embryo” as the product of the union of egg and sperm, thus excluding cloned embryos from legal protection. See LA. REV. STAT. ANN. § 9:121 (West 1986).
28. In November 2004, California voted in a statewide referendum on a measure that both amends the state constitution to establish a “Right to Conduct Stem Cell Research,” and calls for the issuance of three billion dollars of general obligation bonds to provide funding for stem cell research. See California Stem Cell Research and Cures Initiative, Proposition 71 (Cal. 2004), www.voterguide.ss.ca.gov/propositions/prop71text.pdf.
30. See, e.g., United States v. Butler, 297 U.S. 1, 66 (1936) (“[T]he power of Congress to authorize expenditure of public moneys for public purposes is not limited by the direct grants of legislative power found in the Constitution.”).
31. See Rust v. Sullivan, 500 U.S. 173 (1991); Harris v. McRae, 448 U.S. 297 (1980);
confer legitimacy on a given enterprise, signaling its worthiness for the allocation of otherwise scarce funds. The withholding of federal funds can signify a variety of sentiments: a lack of faith in the worthiness (moral or otherwise) of the enterprise, moral caution or affirmative disdain for the activity in question, or simply the judgment that there are more important priorities worthy of the expenditure of limited resources.

The Bush policy is instructive in this regard. It does, as mentioned above, utilize funding as a jurisdictional nexus. But it also conveys a message regarding the priorities of the Administration. First, it requires the federal government to adopt a posture of neutrality in the debate over the moral propriety of destructive embryo research. The Bush policy affirmatively and deliberately withholds the federal government's official approval for such practices, though it does allow these practices to proceed in the private sector. As such, no taxpayer is compelled to pay for and encourage an activity (i.e., embryo destruction) that a significant portion of the American public finds morally troublesome. At the same time, the Bush policy was designed in an effort to reflect the government's commitment "to fully exploring the promise and potential of stem cell research" without running afoul of the particular moral and ethical principles set forth and embraced by President Bush in announcing the policy.

D. Governance According to a "Bright Line" Moral Principle

The Bush policy provides a rich and complex example of one particular approach to "bioethical governance." It is not driven by a utilitarian weighing of commensurate values, but rather begins with a clear moral standard that may not be transgressed. In his August 9, 2001 speech, and in an editorial printed in the New York Times three days later, President Bush said: "There is at least one bright line: We do not end some lives for the medical benefit of others. For me, this is a matter of conviction: a

32. See Matthew Nisbit, Public Opinion About Stem Cell Research and Human Cloning, 68 PUB. OPINION Q. 131, 135 (2004) (noting that in two separate Gallup Polls asking respondents whether they found medical research using cells obtained from human embryos to be morally acceptable or morally wrong, more than half in both polls said it is "morally wrong"). It is important to note, however, that polls regarding public support for embryonic stem cell research have varied widely: Many show widespread support for the practice, while others show widespread opposition. See generally NAT'L INSTS. OF HEALTH, REPORT OF THE HUMAN EMBRYO RESEARCH PANEL 44-45 (Sept. 1994).
33. See HHS Fact Sheet, supra note 18.
belief that life, including early life, is biologically human, genetically distinct, and valuable."34 This is the moral and ethical foundation upon which the Bush policy is erected. The Administration's stated desire to better the human condition by eradicating dreaded diseases and debilitating injuries, and its attendant enthusiasm and support for scientific research aimed at these goals, are thus expressed and acted upon within the boundaries of this moral framework. Accordingly, the Bush policy is designed to endorse and actively promote all stem cell research (including embryonic) that does not encourage the future instrumentalization and destruction of human embryos.

This bright line policy stands in contrast to the balancing approaches espoused by other commentators and governmental advisory bodies. Both the NIH Human Embryo Panel and President Clinton's National Bioethics Advisory Commission (NBAC) promoted the view that while human embryos deserve special respect as a form of developing human life, it is possible to balance this respect against the benefits of scientific research that might be achieved through research that necessarily requires the destruction of such embryos.35 This approach led both bodies to recommend that such research was ethically acceptable, and that the federal government should fund such research, subject to various conditions. The NIH Human Embryo Panel went somewhat further, issuing a qualified endorsement of the creation of embryos solely for the sake of research.36

The policy also teaches that policies originating from this species of bioethical governance—based on a bright line moral principle rather than a balancing of values or "compromise" (in the conventional sense)—are not alterable on the basis of a showing that the benefits of transgressing the established boundary would be higher than originally thought—even by orders of magnitude. Put concretely, the Bush policy (given the species of bioethical regulation that it represents) would almost certainly not be revised or reversed, even if tomorrow there were incontrovertible evidence that greater benefits could be realized by federally funding future derivations of embryonic stem cell lines. To do so would undermine the very "bright line" that animates the entire policy, namely, that destruction of human embryos should not be encouraged or incentivized by the promise of future federal funding.

35. See PRESIDENT'S COUNCIL, supra note 4, at 82-84.
36. See NAT'L INSTS. OF HEALTH, supra note 32, at 44-45.
While the Bush policy provides insight into a particular species of moral governance, it also teaches one way in which the formulation of bioethical policies is influenced by considerations of political prudence and respect for pluralism. Although the moral foundation of the Bush policy is a view that human beings are worthy of maximal respect regardless of their developmental stage and that ending some human lives for the medical benefit of others is unethical, the Bush policy does not seek to ban destructive embryo research altogether. To the contrary, it steers a more moderate course, merely withholding the government’s affirmative endorsement of the practice by way of federal funding. What is the significance of this tension between the Bush policy’s moral principle and its practical effect? One can only speculate, but there are several possibilities (or combinations of possibilities).

First, this apparent disconnect might reflect the Administration’s acknowledgement of the moral, ethical, and legal discourse as it has evolved over the past thirty years. As a matter of historical context, the debate over the federal government’s role vis-à-vis embryo research has been consistently framed in terms of funding rather than permission and proscription more broadly. The battle lines, so to speak, were drawn before the Bush Administration came on the scene. Indeed, the issue of stem cell research was presented to the Administration in the form of a question about funding and in the legal context of interpreting and implementing the Dickey Amendment.

Second, the modest nature of the Bush policy might be interpreted as a certain type of incrementalism. That is, it might bespeak the Administration’s desire to avoid overreaching in such a controversial bioethical context. There is a deep divide within the American polity on the question of what is owed to human embryos, and an Administration that sought to impose a novel and restrictive policy in an area where there has historically been little government involvement risks polarization and backlash. Thus, it is possible to construe the Bush policy as reflecting the view that a judicious incrementalism is the most appropriate course for winning public support over the long term for policies that originate from the bright line principle that embryonic human life is inviolable. The limit on federal funding might thus be interpreted as laying the groundwork for a larger effort to convince the American public of the Administration’s views regarding the respect owed to human embryos more generally.

Finally, the restrained nature of the Bush policy might also (or alternatively) serve to demonstrate how considerations of pluralism can
affect the formulation of bioethical public policy. While the Bush approach begins with the moral judgment that human embryos should not be instrumentalized or destroyed for the sake of another's medical benefit, the ultimate legal expression of this policy implicitly acknowledges that there is great division among the American citizenry on this point by remaining neutral on the ultimate question of the legal permissibility of embryo research. The policy does not ban the destruction of human embryos to derive embryonic stem cells, but it does withhold the government's official approval and refuses to compel American taxpayers to subsidize an activity that is a source of great moral and ethical disquiet for a significant portion of the population. The Bush policy could thus be seen as an example of how the government can express its ethical approval (or disapproval) of a particular type of scientific activity while respecting the deep disagreements that persist in society.

37. Polling in this area has reached varied results, not surprisingly turning largely on how the question is framed and what information is provided to respondents. In polls in which respondents are asked if they support “stem cell research” but are not explicitly told that the derivation of embryonic stem cells requires the destruction of human embryos, opposition ranges from twenty-eight percent to thirty-five percent. See Press Release, Nat'l Annenberg Election Survey, Public Favors Stem Cell Research, Annenberg Polling Data Show (Aug. 9, 2004), http://www.annenbergpublicpolicycenter.org/naes/2004_03_stem-cell_08-09_pr.pdf (finding that twenty-eight percent of respondents opposed “federal funding of research on diseases like Alzheimer's using stem cells taken from human embryos”); Press Release, Pew Forum on Religion & Public Life, Cloning Opposed, Stem Cell Research Narrowly Supported (Apr. 9, 2002), http://pewforum.org/publications/surveys/bioethics.pdf (finding that thirty-five percent of respondents oppose federal funding for “stem cell research”). By contrast, in polls where respondents are explicitly told that the research requires the destruction of human embryos (but without explicit reference to the possible therapeutic benefits of the research), opposition increases to between fifty-three percent and sixty-one percent. See Poll: Americans Oppose Destroying Human Embryos, Cloning, TIDINGS, Aug. 27, 2004, http://www.the-tidings.com/2004/0827/stemcell.htm (showing that 61.4% of respondents oppose federal funding of stem cell research in which “embryos are destroyed in their first week of development”); Press Release, Nat'l Right to Life Comm., Majority Opposes Tax Funding of Stem Cell Research That Kills Human Embryos (Aug. 23, 2004) (showing that fifty-three percent of respondents opposed “using tax dollars to pay for the kind of research that requires the killing of human embryos.”), http://www.nrlc.org/Killing_Embryos/Release082304.html. It does not appear that any public survey has yet been conducted in which respondents are advised explicitly of both the possible therapeutic benefits and the fact that embryos are destroyed in the derivation process.
CONCLUSION

In sum, the Bush stem cell policy is one of the most significant recent legal developments with bioethical implications—not merely for its practical impact on scientific research or the use and disposition of human embryos, but also for what it teaches about the nature of bioethical regulation in the United States. As this Essay has attempted to show, a careful consideration of the Bush policy leads one to key insights relating to the manifold character of regulation, principles of federalism, the significance of federal funding, the nature of governance according to a "bright line" moral principle, political prudential judgments, and the impact of a respect for pluralism in the bioethical context. Such insights are crucial to a robust understanding of the still raging debate over the federal regulation of and support for embryonic stem cell research, as well as to a comprehensive appreciation of "bioethical regulation" more generally.