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## **Cover Page Footnote**

\* J. Benjamin Hurlbut, Ph.D. is assistant professor in the School of Life Sciences at Arizona State University. Trained in Science and Technology Studies, his research examines the changing relationships between science, politics and law in the governance of biomedical research and innovation in the 20th and 21st centuries. He holds a Ph.D. in the History of Science from Harvard University.

# RELIGION AND PUBLIC REASON IN THE POLITICS OF BIOTECHNOLOGY

J. BENJAMIN HURLBUT\*

## ABSTRACT

*Questions about the relevance of religious views to public policy have been central in debates over the governance of biotechnology since the 1960s. This article offers an empirical analysis of moments of deliberative politics surrounding human embryo research, primarily within public bioethics bodies. I examine how these bodies have used the idea of public reason as developed in deliberative democratic theory to differentiate between secular and religious reasons. I argue that scientific authority is made to play a powerful, but largely unacknowledged role in constructing these categories by contributing to definitions of the range of “reasonable” pluralism. I show that notions of right (scientific) knowledge are co-produced with ideas of how public discourse can be disciplined to comport with an ideal of public reason. I argue that scientific authority powerfully shapes the contours of public deliberation in ways that are highly consequential for notions of democratic legitimacy, but are systematically unrecognized by political theorists.*

## INTRODUCTION

As the biosciences have generated new capacities for knowing and intervening in life, they have also come to figure progressively more centrally on the question of the right relationship between the state, with its responsibility to protect life, and the authority of democratic society to declare what forms of life are right, desirable, and good. As biotechnology comes to touch upon the deepest dimensions of human life, muddying boundaries between life and non-life, human and non-human, it has also challenged the moral and political self-understandings that undergird democratic institutions. Questions about the place of religious views in public deliberation and policymaking have been central in debates over the governance of biotechnology since the 1960s. For constitutional democracies that treat freedom of religion as fundamental to individual liberty and human dignity, the relevance of

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deeply held moral and religious views for democratic approaches to protecting the integrity of life in its most fundamental dimensions poses a profound challenge.

In this Article, I explore how this challenge has been approached by offering an empirical analysis of several moments of deliberative politics surrounding biotechnology. In particular, I examine discussions of the ethics of human embryo research, primarily within public bioethics bodies. I focus upon how these bodies have approached the question of what sorts of moral views can be appropriately brought to bear in processes of collective reflection and policymaking.

Public bioethics bodies are an important element in the repertoire that states have developed to address challenges of governance in the biosciences.<sup>1</sup> In the US context, these bodies have been charged with the task of deliberating about morally and technically complex questions on behalf of the wider public, with the dual aim of guiding wider public debate and offering advice to policymakers. As apparatuses of the state that assume responsibilities on behalf of the public, these bodies face a basic problem of representation: how the few can legitimately claim to stand in for the many. The problem is particularly acute for public bioethics bodies. Members of these bodies are appointed, not elected, and they have often been criticized as inadequately representing the plurality of moral perspectives present in the wider polity. Because these bodies are not constructed on a stakeholder model, they cannot claim to represent all relevant interests. Nor can they straightforwardly claim the mantle of expert advisors in the sense of having specialized knowledge not otherwise available to the public as, for instance, a science advisory panel to the Environmental Protection Agency would.<sup>2</sup> Rather, they are made responsible for performing the forms of moral sense-making and collective judgment that are the stuff of democracy itself.

In what follows, I examine how several bodies sought to legitimate their claim to stand in for the public.<sup>3</sup> I demonstrate that they drew upon two primary resources. First, rather than claiming to represent the public, they claimed to represent public reason. They claimed the competency to engage in the forms of reasoning that democracy demands, but which the politics of the public square could not deliver. Second, they drew upon scientific authority to designate the forms of disagreement and the range of reasons that are appropriately public, as opposed to the nonpublic reasons that belong to the domain of private (moral and religious) belief. In this analysis, I focus in particular upon two public bioethics bodies that mobilized ideas from deliberative democratic theory to define the

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<sup>1</sup> SHEILA JASANOFF, *DESIGNS ON NATURE: SCIENCE AND DEMOCRACY IN EUROPE AND THE UNITED STATES* (2005).

<sup>2</sup> Joshua Cohen, *Democracy and Liberty*, in *DELIBERATIVE DEMOCRACY* 185, 186 (Jon Elster ed., 1998). The ambiguous role of public bioethics is underscored by the fact that representation in regulatory science is itself a complex matter. Cf. SHEILA JASANOFF, *THE FIFTH BRANCH: SCIENCE ADVISERS AS POLICYMAKERS* (1998).

<sup>3</sup> My analysis is based on an extensive study of the debates over human embryo research. I conducted an extensive documentary analysis, including analyzing the full transcripts of all of the meetings of the bioethics bodies, publications produced by the bodies and by individual members, as well as transcripts of congressional and other public hearings, other published materials, government documents, public media reports, and much more. I also conducted several dozen interviews with central figures in these debates, including a number of individuals who served as members of these bodies or on their staff.

parameters of legitimately democratic deliberation. One of my aims is to examine how these ideas function “in the wild” when deployed as regulative concepts to discipline political discourse into public reason. I show that in constructing ideas of public reason, they relied upon the epistemic authority of science, and in particular the uncritical presumption in American political culture that knowledge stands outside of politics. I show that scientific judgments were placed in asymmetrical relation with public concerns, with the former placing constraints upon the latter. At the same time, this dynamic was occluded by an idealized construction of democratic deliberation that at once relies upon the authority of science to be reasonable, and denies that science is inside the fold of politics. Put differently, to produce conditions of apparently “free public reasoning among equals,”<sup>4</sup> scientific authority was empowered to define the limits of public reason, and thus to declare the conditions under which deliberation is free and participants equal. Behind this was an imaginary, powerful in American political culture, that there is an asymmetry between science and politics. Science is univocal whereas politics is fragmented; science’s reasons are universal, whereas democracy is burdened with the fact of pluralism. Within this imaginary, science enjoys a privileged position in distinguishing between the reasonable and the unreasonable, particularly between (secular) public reasons and (religious) nonpublic ones. Science is seen as supplying notions of what is common, and thus what should be held to be common among those abiding by the norms of public reason.

Importantly, the controversial issue in this case, human embryo research, was a site of “ontological politics,” where ontological and normative dimensions of a biological entity or phenomenon are simultaneously contested, and ethical concepts are subject to processes of ontological clarification, and vice versa.<sup>5</sup> (Arguably, most “ethical” problems in the biosciences fit this description.) In moments of ontological politics, distinctions between scientific and ethical questions, between what are matters of fact and what are issues of values, are therefore neither self-evident nor given in advance. Rather, when issues are clarified or disagreement is settled, these distinctions are consequences, rather than causes of these processes.

One of the foundational observations in the sociology of scientific knowledge is that facts do not settle controversy, but controversy settles facts. That is, the stabilization of epistemic claims is arrived at through social processes that are not themselves explained by reference to the veracity of the epistemic claims they produce. David Bloor’s principle of symmetry elevated this insight to a rule of method: social analysis of knowledge-making should treat the production of claims that are held to be true (i.e., credible) and those that are to be false (i.e., incredible) symmetrically.<sup>6</sup> With the concept of coproduction, Sheila Jasanoff has applied this principle beyond narrow arenas of technical practice to interrogate the mutual constitution of knowledge and norms—of epistemic and normative configurations

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<sup>4</sup> Cohen, *supra* note 2, at 186.

<sup>5</sup> REFRAMING RIGHTS: BIOCONSTITUTIONALISM IN THE GENETIC AGE 293–94 (Sheila Jasanoff ed., 2011).

<sup>6</sup> DAVID BLOOR, KNOWLEDGE AND SOCIAL IMAGERY (1st ed. 1976); *see also* BRUNO LATOUR, SCIENCE IN ACTION: HOW TO FOLLOW SCIENTISTS AND ENGINEERS THROUGH SOCIETY (1987).

of rightness—at the nexus of science and politics.<sup>7</sup> Here I am building upon this scholarship to analyze the coproduction of constructions of science and democracy as the respective institutional custodians of facts and values, and in particular, the ways science is drawn upon to construct a public/private distinction by marking particular kinds of reasons as religious.

The demarcations between facts and values, scientific claims and moral judgments, premises held in common and personal (religious) beliefs are not given in advance. Notions of the secular and the religious are deployed to construct the boundaries of acceptable public reason. I show that notions of knowledge, and thus of scientific authority, are coproduced with ideas of public reason. Science is used to mark certain reasons as falling into the category of “the religious,” and thus out of the category of acceptable public reasons. I trace three primary moves whereby bioethics bodies have deployed science to define ethical problems and delineate the scope of public reasoning: first, by intervening in moments of ontological politics by making ontological declarations that delimit the scope of (reasonable) ethical deliberation; second, by serving as exemplar of the kind of reasoning appropriate to public deliberation; and third, by defining the limits of reasonable moral concern by declaring the (im)plausibility of possible futures.

In the first section of the article, I briefly discuss the dimensions of deliberative democratic theory that are relevant to my analysis. In the second section, I explain my rationale for taking bioethics as a locus of empirical study. In the third section, I contextualize the cases by offering a brief history of the debates surrounding human embryo research, including a brief discussion of one bioethics body. In the fourth and fifth sections, I discuss the two cases that are the main focus of my analysis. The final section concludes the article.

## I.

The question of what sorts of moral views can be appropriately brought to bear in processes of collective reflection and policymaking, and thus what sorts of reasoning are appropriate to public deliberation, is a longstanding problem in democratic theory. Never a simple problem, it is rendered all the more challenging given that the new biotechnologies touch upon fundamental dimensions of human life where the ethical stakes are not easily dissociated from profoundly personal, religious, and moral commitments. Yet on its surface, this challenge is a familiar one, since the ways in which the private moral lives of citizens should or should not figure in the collective lives of democratic societies is a well-worn problem in liberal theory. This is the perennial problem of the place of moral and religious views in the public discourse of secular societies that have made a dual commitment to protecting the prerogative of citizens to hold such views, and to preventing public institutions from privileging any one view over others.

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<sup>7</sup> Sheila Jasanoff, *The Idiom of Co-Production*, in STATES OF KNOWLEDGE: THE CO-PRODUCTION OF SCIENCE AND THE SOCIAL ORDER 1 (Sheila Jasanoff ed., 2004); see also SHEILA JASANOFF, SCIENCE AND PUBLIC REASON (2012).

This issue has figured centrally in lines of deliberative democratic theory that trace their genealogies back to the work of John Rawls. Here, I offer an (extremely incomplete) sketch of some of the basic concepts and approaches relevant to my analysis that theorists of deliberative democracy have developed. This sketch is not, and is not intended to be, comprehensive. As a synopsis of ideas, it is incomplete and bound to be untrue to the careful philosophical work of scholars in this area. However, my intention is not to engage with this theoretical work on its own turf, but rather to examine the social life of these ideas as they are integrated into spaces of practice. I understand these ideas as already embedded in a particular political culture and associated imaginaries. They give articulation to an imagination of the right ordering of things that is already around in culture, but which through theoretical codification is rendered more powerful in shaping thought and practice.

Deliberative democratic theorists in the Rawlsian tradition note the “fact of reasonable pluralism,” that plural, irreconcilable “comprehensive doctrines” are inevitably held by members of a political community. This poses a challenge for collective political judgment, particularly where the aspiration is to arrive at political positions that neither merely aggregate individual preferences nor are simply majoritarian. Deliberative democrats in the Rawlsian tradition see significant limitations in aggregative democracy. It supplies a weak foundation for political legitimacy. Deliberation offers a superior solution.

“According to a *deliberative* conception, a decision is collective just in case it emerges from arrangements of binding collective choice that establish conditions of *free public reasoning among equals who are governed by the decisions*.”<sup>8</sup> Thus, the idea of deliberative democracy is “to tie the exercise of power to conditions of public reasoning[] . . . .”<sup>9</sup>

The idea of public reason is an attempt to locate political legitimacy in deliberation without running afoul of the fact of reasonable pluralism. To radically over-simplify, Rawls’ idea of public reason requires that citizens provide justifications that all other citizens will find reasonable “by appealing to beliefs, grounds, and political values it is reasonable for others also to acknowledge,” even if they disagree with those reasons.<sup>10</sup> Under ideal conditions, everyone will be convinced by the best reasons. But in the real world people will disagree, so everyone must use reasons that seem at least reasonable to everyone else, if not convincing. This is the principle of reciprocity. It requires that “[w]hen citizens make moral claims in a deliberative democracy, they appeal to reasons or principles that can be shared by fellow citizens . . . .”<sup>11</sup> Nonpublic reasons are inappropriate to public reasoning because they do not comport with shared conceptions of reasonableness:

[S]hared guidelines for inquiry and methods of reasoning make that

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<sup>8</sup> Cohen, *supra* note 2, at 186 (emphasis in original).

<sup>9</sup> *Id.*

<sup>10</sup> JOHN RAWLS, JUSTICE AS FAIRNESS: A RESTATEMENT 27 (Erin Kelly ed., 2001).

<sup>11</sup> AMY GUTMANN & DENNIS THOMPSON, DEMOCRACY AND DISAGREEMENT 55 (1996).

reason public, while freedom of speech and thought in a constitutional regime make that reason free. By contrast, nonpublic reason is the reason appropriate to individuals and associations within society: it guides how they quite properly deliberate in making their personal and associational decisions.<sup>12</sup>

Rawls positions public reason as a constitutional essential. A stable constitutional regime “should specify not only a shared but if possible a clear basis of public reason, and one that can publicly be seen to be sufficiently reliable in its own terms.”<sup>13</sup> Political values, particularly those that touch upon constitutional essentials, must conform to the requirements of public reason which “bar theological and other comprehensive doctrines from deciding the case.”<sup>14</sup> Thus, public reason is a regulative concept. It is a duty of citizenship that participants in a political community offer public reasons when engaged in political deliberation. Public reason, in effect, defines the terms of participation. In theory, it is a normative prerequisite for enacting deliberative democracy in practice. In practice, however, it plays a disciplinary function in delimiting the rules of participation in a political community. On some level, this is an intended feature of the idea. It is meant to shape the practices of a political culture in such a way that that political culture incorporates those practices as norms. Indeed, it is intended to play a kind of pedagogical role in shaping members of the political community. In limiting the kinds of reasons that can be given in political deliberation, “public reasoning itself can help to reduce the diversity of politically relevant preferences because such preferences are shaped and even formed in the process of public reasoning itself.”<sup>15</sup>

My primary concern in this article is the relationship between scientific authority and normative constructions of public reason that play a regulative function in practices of governance. Knowledge occupies a profound but neglected role in shaping public reason. Later I demonstrate this through empirical analysis. But it is worth observing the constitutive (even constitutional) role that scientific authority plays in Rawls’ conception of public reason:

Faced with the fact of reasonable pluralism, and granted that, on matters of constitutional essentials, basic institutions and public policies should be justifiable to all citizens (as the liberal principle of legitimacy requires), we allow the parties the general beliefs and forms of reasoning found in common sense, and the methods and conclusions of science, when not controversial. . . . So we say the parties have that kind of general knowledge and they use those ways of reasoning. This excludes comprehensive religious and philosophical doctrines (the whole truth as it were) from being specified as public reasons.<sup>16</sup>

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<sup>12</sup> RAWLS, *supra* note 10, at 92.

<sup>13</sup> *Id.* at 116.

<sup>14</sup> *Id.* at 117.

<sup>15</sup> Cohen, *supra* note 2, at 199 (emphasis omitted).

<sup>16</sup> RAWLS, *supra* note 10, at 89–90.

On this account, the “methods and conclusions of science” occupy a special category of reasons: reasons that citizens cannot evaluate for themselves, but must accept as reasonable. Seen as an epistemological abstraction, scientific knowledge is secured not by its reasonableness for citizens, but in its correspondence to nature. But as the product of a social process, knowledge is the product of a community of reason whose reasons are not (on Rawls’ account) answerable to public reason. Admittedly, “when not controversial” could be interpreted to mean “when not controversial in the judgment of the political community.” But in practice (and in my understanding of Rawls’ intended meaning), the scientific community is seen as the relevant community of reason for judging what conclusions of science are (un)controversial. The idea of public reason as an obligation of citizens to provide and respond to reasons in terms of “beliefs, grounds, and political values [that] *it is reasonable* for others also to acknowledge” places science and citizens in asymmetrical relation in the space of public reason.<sup>17</sup> That which is marked (by scientific authority) as uncontroverted knowledge is *de facto* reasonable, whereas those views that are marked as religious (potentially, as we shall see below, by invoking scientific authority to reject critical challenges to science’s ontological accounts) are *de facto* excluded. Importantly, this privileged position of science is not an unbidden intrusion of technocracy into political space of the sort that Jürgen Habermas has worried about.<sup>18</sup> Rather, it is delegated by democracy to science. It is not colonization, but deference.<sup>19</sup>

Joshua Cohen argues that the idea of public reason offers a model for designing institutionalized power to comport with a deliberative ideal. “We can work out the content of the deliberative democratic ideal and its conception of public reasoning by considering features of such reasoning in the idealized case and then aiming to build those features into institutions.”<sup>20</sup> The bioethics bodies that I analyze below attempted to do precisely this. They positioned themselves as addressing the “fact of reasonable pluralism” by bridging that chasm that separates the imaginary world of deliberative democracy from what they saw as the fact of unreasonable publics.

## II.

In the next section, I discuss the attempts of public bioethics bodies to navigate the “fact of reasonable pluralism” by constructing the parameters of public reason. I examine the actual practices of reasoning undertaken in the name of a democratic public, and in institutional contexts authorized to do so. My aim is not to hold those practices up against an idealized normative construct in order to evaluate whether or not they approximate the ideal. Rather, I am interested in how such ideal constructions function as ingredients in practice, and in particular how, as

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<sup>17</sup> *Id.* at 27 (emphasis added).

<sup>18</sup> JÜRGEN HABERMAS, TOWARD A RATIONAL SOCIETY: STUDENT PROTEST, SCIENCE, AND POLITICS (Jeremy J. Shapiro trans., 1987).

<sup>19</sup> J. Benjamin Hurlbut, *Remembering the Future: Science, Law, and the Legacy of Asilomar*, in DREAMSCAPES OF MODERNITY: SOCIOTECHNICAL IMAGINARIES AND THE FABRICATION OF POWER 126–50 (Sheila Jasanoff & Sang-Hyun Kim eds., forthcoming Aug. 2015).

<sup>20</sup> Cohen, *supra* note 2, at 193.

aspirational ideals, they come to configure the practices of the institutions that employ them. However, before moving on to this empirical material, I offer a brief rationale for selecting bioethics as an object of study.

As societies have come to confront new challenges of governance at the nexus of science and democracy, they have generated new practices and institutions of governance to address them. These institutions are not merely (or even primarily) shaped by the problems they confront, but also by the ways in which these problems are constructed as problems—of knowledge, of risk, of violating fundamental moral boundaries, etc. This, in turn, reflects imaginations of the responsibilities of institutions of governance, and of the right relationships between science, the state and its citizens. The domain of bioethics is one critical area in which such imaginations have been engaged and shaped, though often without explicit acknowledgement or clear recognition that this is happening. As I discuss below, the idea of public reason advanced in deliberative democratic theory is part of the repertoire of approaches that public bioethics bodies have drawn upon in identifying ethical problems and envisioning adequate responses to them. Bioethics tends to see these moments in terms of the ethically problematic technologies that define them. But the last several decades has seen extraordinary change not just in science and technology, but in our moral and political engagements with them. These modes of engagement have developed over time and across multiple technical domains, though these systemic continuities are obscured by the reactive proliferation of technology specific subfields like “genethics,” “neuroethics,” “synbioethics,” etc. Furthermore, they are not only intellectual approaches, but also institutionalized regimes of “oversight,” authorized to engage in reasoning and judgment on behalf of the rest of us. (Embryonic Stem Cell research oversight committees are one example of many.)<sup>21</sup> Because bioethics is a consequential part of the landscape of contemporary governance, we ought to understand how it has come to be, and how it carries out its business.

However, beyond watching the watchers for the sake of democratic accountability, there is much to be learned about how societies imagine responsibilities of governance by examining these institutions. They are, in effect, sites of democratic experimentation in the governance of science and technology. As such, their practices illuminate not only how we contend with developments in science and technology, but how democracy itself is re-imagined in the process.<sup>22</sup> I focus here on public bioethics bodies because they are sites where the abstractions of moral and political theory touch down in arenas of public controversy. Here, the idealized constructs of democratic theory are put to the test, but they are also deployed to set the terms of the test—to discipline the politics of deliberation to conform with particular notions of order and reasonableness. Whether and how these notions hold offers insight into the political culture that accepts or rejects

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<sup>21</sup> J. Benjamin Hurlbut & Jason Scott Robert, *Good Governance Connects Science and Society*, 31 J. POL’Y ANAL. & MGMT. 706, 722–26 (2012); J. Benjamin Hurlbut & Jason Scott Robert, *Stem Cells, Science and Public Reasoning*, 31 J. POL’Y ANAL. & MGMT. 706, 707–14 (2012); Sheila Jasanoff, *Making the Facts of Life*, in REFRAMING RIGHTS, *supra* note 5, at 59.

<sup>22</sup> J. Benjamin Hurlbut, *Reimagining Responsibility in Synthetic Biology*, J. RESPONSIBLE INNOVATION 1–4 (2015).

them. These experiments reveal a particular “unthought” in culturally powerful notions of reason, pluralism and democracy.<sup>23</sup> Problems of knowledge and of epistemic authority—of what is known, who knows, and what ontological accounts hold sway—are bound up with ideas of democracy, with normative notions of the modes of deliberation and the forms of reasoning that make democratic processes legitimate, yet in ways that go effectively unnoticed by students of political theory.

Finally, these are sites of secularization in which notions of the secular and religious are constructed and deployed to regulate reasoning. Religious and moral pluralism figures centrally in moments where—science and technology touch upon fundamental dimensions of human life. It is present as a “fact” of civil society and a figure in public discourse, but also as a foundational constitutional imaginary in American political culture. Recently, scholars have begun to attend to “formations of the secular,”<sup>24</sup> sites where the figures of religion, politics and secular reason have been constructed and rendered constitutive features of modernity. As Jose Casanova has observed, “the secular has become a central modern concept— theological-philosophical, legal-political, and cultural-anthropological—to construct, codify, grasp and experience a realm or reality differentiated from ‘the religious.’”<sup>25</sup> This line of scholarship rejects the thesis that secularization is an inevitable and teleological feature of modernization, and takes the secular itself as an object of interrogation. Remarkably, science has been largely neglected as a space in which formations of the secular take shape.<sup>26</sup> It has generally been treated as a kind of autonomous institution, injecting its products of knowledge, technique and worldview into a separate public sphere of meaning and moral imagination. Yet science is a social institution whose fingerprints are all over the basic normative repertoire of modern political order, for instance, as a source of legitimacy for the state,<sup>27</sup> as an exemplar of democracy,<sup>28</sup> as an originator of imaginaries of progress and transcendence,<sup>29</sup> and, as I argue below, as a resource in delineating the boundaries between public (secular) and private (religious) modes of reasoning. Science is one of modernity’s most powerful sites of authority, and has played a constitutive role in the formation of secular imaginations of moral and political

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<sup>23</sup> MICHEL FOUCAULT, *THE ORDER OF THINGS: AN ARCHAEOLOGY OF THE HUMAN SCIENCES* 322–30 (1994).

<sup>24</sup> TALAL ASAD, *FORMATIONS OF THE SECULAR: CHRISTIANITY, ISLAM, MODERNITY* (2003).

<sup>25</sup> Jose Casanova, *The Secular, Secularizations, Secularisms*, in *RETHINKING SECULARISM* 54–74 (Craig Calhoun et al. eds., 2011).

<sup>26</sup> One possible symptom of this neglect is the fact that “science” does not appear in the index of Charles Taylor’s groundbreaking text in this area. It does appear well over a hundred times in the text itself, though only as the self-contained locus of particular intellectual and institutional changes that mark (or cause) the emergence of modernity. But science (and technology) are not merely ingredients in the making of the secular age, but are integrated into it, and are products of it. Taylor’s important turn from a history of ideas to a history of imagination-in-practice overlooks the extent to which modernity’s most powerful social imaginaries are, in fact, sociotechnical imaginaries. CHARLES TAYLOR, *A SECULAR AGE* (2007); on sociotechnical imaginaries, see *DREAMSCAPES OF MODERNITY: SOCIOTECHNICAL IMAGINARIES AND THE FABRICATION OF POWER*, *supra* note 19.

<sup>27</sup> YARON EZRAHI, *THE DESCENT OF ICARUS : SCIENCE AND THE TRANSFORMATION OF CONTEMPORARY DEMOCRACY* (1990).

<sup>28</sup> Michael Polanyi, *The Republic of Science: Its Political and Economic Theory*, 1 *MINERVA* 54 (1962); Alvin M. Weinberg, *The Obligations of Citizenship in the Republic of Science*, 16 *MINERVA* 1 (1978).

<sup>29</sup> *DREAMSCAPES OF MODERNITY: SOCIOTECHNICAL IMAGINARIES AND THE FABRICATION OF POWER*, *supra* note 19.

order.<sup>30</sup> As Calhoun et al. observe, “the demarcation between the religious and the secular is made, not simply found.”<sup>31</sup> Rethinking secularism requires also attending to the roles scientific authority plays in making (and remaking) this boundary.

### III.

By way of background, it is worth briefly reviewing the history of human embryo research and uses of human *in vitro* fertilization. During the 1980s, there was a dramatic increase in assisted reproduction involving *in vitro* fertilization (“IVF”) in the United States. Louise Brown, the first child conceived through IVF was born in the U.K. in 1978. The first American baby conceived through IVF was born in December, 1981. In 1996, when the Centers for Disease Control began collecting data, roughly 1 in 200 babies born in the United States were conceived *in vitro*. As of 2012, the rate was roughly 1.5% of live births.<sup>32</sup>

In contrast to most European countries, IVF in the United States has been left largely unregulated at the national level. In the 1980s, the US federal government invested no public funds in either research or clinical applications of human *in vitro* fertilization, and therefore exerted no regulatory control over research practices. The US Food and Drug Administration did not regulate IVF. In general, private insurance did not cover IVF, and therefore it was not subject to the insurance industry’s quasi-regulatory power over medical practices. Instead, IVF emerged as a purely private sector practice and a consumer good for those who could afford its high price tag. By the mid-1980s, efforts had emerged within the American Fertility Society to subject the IVF industry to certain criteria of accreditation and standards. However, this self-regulatory effort was slow in developing and relatively weak once it did emerge. Because it lacked the force of law, adherence by IVF clinics was voluntary and, therefore, incomplete. Given this unconstrained environment, a significant market for IVF services, and the lucrative nature of the business, a large IVF industry emerged rapidly in the early to mid-1980s. When Congress turned its attention to it in the late 1980s, it confronted an already existing industry, with an established market, established consumer expectations, and existing (though voluntary) industry rules and norms. Thus, Congress approached regulation primarily as a matter of consumer protection. When legislation was finally passed in 1992, it provided only for collection of data on clinics’ success rates so that consumers could make informed choices about where to seek services. In an environment of market competition, clinics sought an advantage by achieving higher rates of live births than their competitors. As a result, US clinics tended to produce, transfer and cryopreserve more embryos than was permissible in much of Europe.

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<sup>30</sup> STEVEN SHAPIN & SIMON SCHAFFER, *LEVIATHAN AND THE AIR-PUMP* (1989).

<sup>31</sup> CRAIG CALHOUN ET AL., *RETHINKING SECULARISM* 20 (2011).

<sup>32</sup> *2012 National Summary: Assisted Reproductive Technology (ART) Report*, CTRS. FOR DISEASE CONTROL & PREVENTION, [http://nccd.cdc.gov/DRH\\_ART/Apps/NationalSummaryReport.aspx](http://nccd.cdc.gov/DRH_ART/Apps/NationalSummaryReport.aspx) (last visited Aug 14, 2014).

One consequence of these practices was that by the early 1990s, there were a large number of cryopreserved IVF embryos that had been produced by infertile couples in an effort to get pregnant, but were no longer needed for that purpose. Proponents of research saw these so-called spare frozen embryos as a vast natural resource that could be put to good use as research material. For research conducted in the private sector, nothing prevented the use of spare embryos in this way—or, for that matter, the creation of embryos specifically for research purposes. But given the enormous federal budget allocated to biomedical research in the United States, and the fact that academic researchers rely almost exclusively upon National Institutes of Health (“NIH”) funding, the *de facto* ineligibility of human embryo research for federal support was seen as a significant impediment.

Public ethical debate about *in vitro* fertilization stretched back decades, arguably all the way back to the mid-1920s when J.B.S. Haldane imagined a future in which reproduction was a technologically mediated process.<sup>33</sup> As IVF became technically realistic, it came to figure in imaginations of human biological self-transformation, and emerging discussions about the responsibility to control and shape the human future.<sup>34</sup> The primary participants in these discussions were scientists (often quite prominent ones) and theologians.<sup>35</sup> The conversations were not organized around specific technologies so much as the notions of human purpose that would guide emerging forms of biological control. Thus, technologies like IVF were seen as worrisome in their own right, but also as emblematic of a posture toward human life that would subject it to unprecedented technological control. This is evident in the title of a 1972 *Journal of the American Medical Association* editorial about *in vitro* fertilization entitled “Genetic Engineering in Man.”<sup>36</sup> A decade later, IVF technology had become increasingly distanced from the notion of radical control. It was, of course, widely recognized that it could be utilized for these purposes, but by 1980, the reigning presumption was that, with the right limits, it should be seen more as an extension (or medical facilitation) of a natural process than as a radical break with nature.

From the end of the 1970s forward, American lines of debate fell into three rough categories. First, there was a reproductive rights frame. Some argued that the line of constitutional interpretation that had culminated in *Roe v. Wade* in 1973 clearly drew a boundary around reproduction as an intimate, private space in which the state could not interfere. Thus, if considerations of safety could be set aside—and they *were* set aside remarkably quickly—IVF could be treated as a medical procedure that was between a woman and her doctor, and could be assimilated into an established medico-legal order without further collective evaluation. Though there certainly were ethical questions to be asked, they too were in the space of individual liberty and judgment. This line of argument was an important element in the approach that was adopted by the Ethics Advisory Board (“EAB”) in 1979, the first ethics body in the United States (and, for that matter, the world) to deliberate

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<sup>33</sup> J. B. S. HALDANE, DAEDALUS OR SCIENCE AND THE FUTURE (1924).

<sup>34</sup> See, e.g., MAN AND HIS FUTURE (Gordon Wolstenholme ed. 1963).

<sup>35</sup> JOHN H. EVANS, PLAYING GOD?: HUMAN GENETIC ENGINEERING AND THE RATIONALIZATION OF PUBLIC BIOETHICAL DEBATE (2002).

<sup>36</sup> Editorial, *Genetic Engineering in Man: Ethical Considerations*, 220 JAMA 721 (1972).

about IVF. This (extra-judicial) interpretation of the law in effect privatized the moral questions associated with this process.<sup>37</sup>

The second framing tended to treat the embryo as a key element in a process of procreation that could be understood more or less as a technological reconstitution of a natural biological process. Questions about how to treat the embryo tended to be framed as a problem of *naturalization*: of the extent to which laboratory interventions recapitulated or broke with natural procreation. Concerns about the mechanization and commoditization of procreation focused on IVF's potential for departure from the script of natural reproduction to produce new configurations of biological, legal, economic and cultural relationships between procreative partners, parents and children. These discussions also evaluated the experimental appropriation of biological potencies for laboratory ends by examining the degree to which experiments represented a break with natural processes. For instance, if a certain percentage of embryos would be lost in natural reproduction, then using experimental techniques in IVF that did not increase this rate might be permissible. Put simply, this line of discussion focused on the perturbations to traditional configurations of biological, social and moral relations that these technologies heralded, and looked to nature as a normative touchstone and precedent. Where practices were more analogous to nature, they seemed to demand less ethical justification; where less analogous, they demanded more.

A third ethical frame that emerged during this period was over the "moral status" of the human embryo. This frame specifically acknowledged the potential for separating the embryo from a reproductive process, and thus took it as an abstract object of ontological and moral assessment in itself. On some level, this line of discussion tracked the new figure of the *in vitro* embryo as an object in a dish. Abstracted from the embodied process of procreation, the *in vitro* human embryo could be visualized, discussed and governed as an autonomous entity. Indeed the generic, discursive figure of "the embryo" emerged in discussions of moral status. The embryo became a decontextualized object of moral reflection as the procreative purpose of IVF faded into the background.

Discussions of moral status emerged most forcefully around questions of whether IVF embryos could be taken as objects of pure research. Rather than examine particular experimental uses, this line of debate first sought a principled answer about the embryo itself, which could then be the basis for more or less permissive research policies. In effect, the wide range of imagined uses of the embryo focused conversation on a narrow moral-ontological assessment of what it is in itself. The prospect of using the embryo as an experimental object informed how it was approached as a moral subject.

The "moral status" of the human embryo had figured centrally in ethical deliberations since the late 1970s. In 1978, the first public bioethics body to assess IVF, the Ethics Advisory Board, had faced the question of whether the human embryo ought to be treated as a human subject, and thus afforded the protections

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<sup>37</sup> James Benjamin Hurlbut, *Experiments in Democracy: the Science, Politics and Ethics of Human Embryo Research in the United States, 1978-2007* (Feb. 2010) (unpublished Ph.D. dissertation, Harvard University) (on file with Harvard University), [http://stsprogram.org/admin/files/imaginaries/Hurlbut-Experiments\\_in\\_Democracy.pdf](http://stsprogram.org/admin/files/imaginaries/Hurlbut-Experiments_in_Democracy.pdf).

that were in the same year being articulated by the National Commission for the Protection of Human Subjects of Behavioral and Biomedical research in what came to be known as the Belmont Report. For the Ethics Advisory Board (“EAB”), the issue of moral status came to be informed by an ontological assessment of the human embryo. The Board asked whether the moral judgment that the embryo should be treated as a human person made sense in light of its biological attributes. This approach took shape largely under the influence of the natural law inflected sensibilities of the Jesuit theologian and moral philosopher Richard McCormick.

Interestingly, in this respect the EAB’s approach represented a departure from the National Commission’s 1975 evaluation of fetal research. The National Commission opted not to address the question of when morally significant human life begins. Instead, it treated the human fetus as a human subject like any other, regardless of its developmental stage. However, when the Department of Health, Education and Welfare (“DHEW”) promulgated regulations governing fetal research, the fetus was defined as including the human embryo from implantation forward (roughly fourteen days post-fertilization). By DHEW’s own account, this was a purely pragmatic distinction: because the technology of the day could not detect the presence of the conceptus *in vivo* prior to implantation, a definition that embraced the preimplantation embryo would be unenforceable.<sup>38</sup> The EAB assessment of research on the human embryo addressed precisely this ungoverned interval of fourteen days. In its recommendations, it drew a bright line at fourteen days not because there was consensus that it represented a morally significant moment of ontological transformation, but because less or more would have required a principled reevaluation of the existing regulations. In this sense, the boundary was initially somewhat arbitrary.

From the beginning of these discussions, questions of moral status were seen as turning in important ways on the embryo’s biological status. Thus, arguments about how the embryo should be treated transmuted into questions of how it should be known and described, and of what knowledge of biological features of the embryo could clarify, or even resolve, moral questions. Proponents of the view that the embryo did not rise to the moral status of a more developmentally advanced human being tended to point to two biological factors. First, prior to gastrulation (roughly fourteen days after fertilization), an embryo can cleave, splitting into two embryos. (This is the process that gives rise to monozygotic twins.) Second, humans have a high rate of embryo loss. A significant number of fertilizations do not progress past the relatively early stages of development. Thus the odds of any given embryo progressing beyond early development are less than half. Some took these biological accounts to show that the early embryo did not rise to the level of a

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<sup>38</sup> For the definition of “fetus” and “pregnancy” in the regulations promulgated in light of the National Commission recommendations, *see* *Fetuses, Pregnant Women, in Vitro Fertilization*, 40 Fed. Reg. 33,526, 33,529 (August 8, 1975). For discussion of comments on the definitions, *see* *Protection of Human Subjects*, 39 Fed. Reg. 30,648, 30,651 (Aug. 23, 1974); *Protection of Human Subjects*, 42 Fed. Reg. 2,792 (Jan. 13, 1977).

full, human moral subject.<sup>39</sup> These have become well-worn arguments in the last thirty-five years. They are widely invoked and often challenged.<sup>40</sup>

For my present purposes, I am less interested in the merits of those arguments themselves than in how they were used to define the limits of publicly reasonable moral concern. In 1985, the ethics committee of the American Fertility Society pointed to these biological features of the embryo to argue that the philosophical concept of personhood could not reasonably attach to the early human conceptus because it simply did not meet the basic ontological criterion of being an individual. The committee argued that because the early embryo can twin, it is scientifically incorrect to consider it an individual. And because persons are necessarily individuals, it is therefore philosophically incoherent to consider it a person, at least where moral judgments give due deference to scientific knowledge. As the author of this section of the committee report had put it elsewhere, such a purely scientific account would not satisfy “individuals committed to a religious view of the matter,” but the purpose of public deliberation and policymaking was not to address private religious concerns.<sup>41</sup>

The committee went so far as to coin a new term to distinguish between the pre- and post-fourteen day embryo: the preembryo. The committee made clear that this new nomenclature was strictly scientific. It was “not intended to imply a moral evaluation of the embryo.”<sup>42</sup> The purpose of the term, according to the committee, was to introduce descriptive accuracy into public debate, thereby disciplining public discourse to take into account relevant facts. The committee believed the public was concerned about IVF because it was confusing the preembryo with later developmental stages. Thus, the committee hoped the new term would establish a clear line between an entity of limited moral concern—the preembryo—and an entity of greater moral status—the embryo—and thus eliminate ethical objections to embryo research. The committee hoped that by using these terms, the public would incorporate an important scientific distinction into moral debate without actually needing to know what facts lay behind the language. The term would be both “scientifically accurate and meaningful to the public.”<sup>43</sup> By using a scientifically authorized distinction, the public could delegate responsibility for knowing the facts to experts. It would also make clear the difference between “religious views of the matter” by revealing them to be at ontological odds with biological reality. The

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<sup>39</sup> Though they had different implications in other lines of reason. For instance, the Ethics Advisory Board took the high rate of embryo loss *in vivo* as analogous to embryos that were not transferred to the womb and died in the dish. See Hurlbut, *supra* note 37.

<sup>40</sup> ROBERT P. GEORGE & CHRISTOPHER TOLLEFSEN, *EMBRYO: A DEFENSE OF HUMAN LIFE* (2008).

<sup>41</sup> Clifford Grobstein, *The Moral Uses of ‘Spare’ Embryos*, 12 HASTINGS CENTER REP. 5, 6 (1982).

<sup>42</sup> Ethics Committee of the American Fertility Society, *Ethical Considerations of the New Reproductive Technologies*, 46 FERTILITY AND STERILITY i, vii (1986).

<sup>43</sup> “I think it was looking for some consistently that would be scientifically accurate and meaningful to the public. And we were concerned about embryos precisely because of the difference between this developing entity before and after 12 or 14 days. And we thought use of the term ‘embryo’ was technically misleading. We’re talking about these cells at an earlier stage than that. And we thought ‘well, preembryo covers them all’ and that might be the term of art that would be least misleading and still meaningful to the public. Some said we can be more precise than that, but others said if we’re more precise the public won’t know what we’re talking about. Embryo was in common use at the time so preembryo should have been pretty clear.” Interview with Charles McCarthy, Ethics Committee, American Fertility Society (June 17, 2009).

“preembryo” would make certain biological facts public, while exposing certain moral arguments as religious and therefore necessarily nonpublic.

What is of interest for my purposes is not the question of whether the concept of the preembryo was a factual representation of nature or a value-laden construction masquerading as a fact, though critics of the term pilloried it as the latter. Rather, I wish to draw attention to the tacit democratic theory that was behind it: facts always provide a crucial common ground and, therefore, should precede and constrain values-questions. The concept of the preembryo encoded a vision of democratic deliberation in which scientific experts step in to ensure that the terms of ethical deliberation comport with the relevant facts. Science provides the correct classifications and democracy sorts out their moral significance, if any. This technocratic notion of the place of science in politics is a familiar one. (As I suggested above, it is arguably a tacit, if not explicit ingredient in Rawls’ idea of public reason). It reflects the idiom of the science-politics distinction in American political life. Is a scientific claim pure or politicized? Though this question is meant to challenge the credibility of a particular claim, it simultaneously affirms that pure scientific knowledge legitimately precedes and informs values questions. On this view, democratic questions of “what shall we do” should defer to scientific declarations of what is the case.

The deliberations of the AFS ethics committee nicely capture what one might call the constitutional position of science—that is, the privileged position of science in configuring normative arrangements through the authority to define the nature of the world to which norms apply, and to demand reformation of norms where they fail to comport with that world.<sup>44</sup> However, although the committee’s approach was informed by a notion of how scientific knowledge ought to inform public deliberation, it did not ground this notion in an explicit account of public reason. Thus, while the preembryo was intended to exclude certain particular (ostensibly) religious reasons, it did not attempt to define the norms whereby one would identify and exclude nonpublic reasons. However, the bodies discussed in the next two sections did precisely this, and they relied upon the constitutional position of science to do it.

#### IV.

In this section I discuss is the Human Embryo Research Panel (“HERP”). The HERP was constituted in 1993 by the director of the National Institutes of Health (“NIH”) to explore ethical dimensions of the use of human embryos in NIH-funded research. NIH had never funded such research. Since 1975, it had been subject to a regulation that required that any protocol involving human embryo research be subjected to review by the Ethics Advisory Board (“EAB”). Though the Board was created in 1977, it was dissolved at the end of the Carter administration, and was not reconstituted. As a result, there was a *de facto* moratorium on human embryo research in place from 1980 to 1993. In June 1993, Congress passed legislation that

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<sup>44</sup> For a related discussion of science, law, and governance, *see* Hurlbut, *supra* note 19.

nullified that longstanding regulatory requirement.<sup>45</sup> The elimination of the requirement for EAB review was interpreted by the National Institutes of Health as opening the door to all forms of research on human embryos *in vitro*. Though there was no longer a regulatory requirement for ethical review, the NIH director Harold Varmus decided that research on the human embryo was sufficiently sensitive that an advisory body should be constituted to address ethical questions before any research proposals were approved. The HERP was assembled to study the issues and provide a report to the Advisory Committee to the Director. On February 2, 1994, the Panel held its first meeting.

Like other bioethics bodies that preceded it, the Panel was composed of a variety of different types of experts. It was composed of nineteen members, representing a range of disciplines including embryology, reproductive medicine, law, bioethics, sociology, and patient advocacy. Several of the members were intimately familiar with the ethical complexities associated with human embryo research. For instance, Mark Hughes was a pioneering researcher on human preimplantation genetic diagnosis and held a position at NIH. The Panel's charge was to ethically evaluate research on the extracorporeal human embryo. It was to categorize research activities into three classes, those that were acceptable for federal funding, those warranting further review, and those that were unacceptable for federal funding. The Panel held five meetings between February and June of 1994. The Report of the Human Embryo Research Panel was reviewed and endorsed by the Advisory Committee to the Director on December 2, 1994, and publicly released the same day.

The panel's deliberations came at a crucial, transitional moment in the history of cell biology. More than a decade of research had taken place since the derivation of embryonic stem cells from mouse embryos in 1981.<sup>46</sup> With new techniques in cell culture and genetics, there was significant interest amongst developmental biologists in studying human embryogenesis and cellular differentiation, with corollary hope that these techniques might lead to new understandings of—and therapeutic interventions in—human disease. Researchers saw human embryos as a powerful resource for these purposes. In this imagination, the *in vitro* human embryo was no longer circumscribed to the project of procreation. While clinical IVF formed important background infrastructure for this vision, it was as a source of embryos, and no longer the sole context in which *in vitro* embryos might be put to research use. The large surplus of embryos (and, potentially, gametes) that had been generated within the private space of assisted reproduction could be allowed to spill over into the domain of public science. Thus, the HERP approached the embryo as a potential research object, not as an element in a process of procreation. Though many of the imagined applications of embryo research were related to reproduction (and contraception), the HERP focused on the potential value of the

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<sup>45</sup> National Institutes of Health Revitalization Act of 1993, Pub. L. No. 103-43, § 121(c), 107 Stat. 133 (1993) (repealing 45 C.F.R. § 46.204(d)).

<sup>46</sup> Gail R. Martin, *Isolation of a Pluripotent Cell Line from Early Mouse Embryos Cultured in Medium Conditioned by Teratocarcinoma Stem Cells*, 78 PROC. NAT'L ACAD. SCI. USA 7634 (1981); M. J. Evans & M. H. Kaufman, *Establishment in Culture of Pluripotential Cells from Mouse Embryos*, 292 NATURE 154 (1981).

human embryo for research on cancer, toxicology, and as a potential source of human embryonic stem cells. Indeed, some Panel members saw the HERP as a critical vehicle for opening up a fundamental, potentially revolutionary domain of human biological research, and lending it the legitimacy of American academic science. As one member put it, the Panel would help to shift authority over embryo research into the jurisdiction of the scientific community—to “return this research to peer-review.”<sup>47</sup>

Despite its broad charge, the HERP made an evaluation of the moral status of the human embryo the centerpiece of its deliberations. Its members assumed that if they could locate the embryo in the appropriate category of moral worth, the (im)permissibility of its uses would follow. The Panel zeroed in on questions of moral and ontological status almost immediately. In the first hour of the first meeting, during a very preliminary discussion of the Panel’s charge, Chairman Steven Muller asked for a “working definition of an embryo.” Duane Alexander, the director of the National Institute of Child Health and Human Development, who was present at the meeting to welcome the members, directed Muller to the Panel’s briefing materials. The glossary defined the embryo as “the developing human from about two weeks after fertilization until the end of the eighth week.” That definition was, according to Alexander, “pretty much a standard one.” Other Panel members disagreed, maintaining that the term refers to the conceptus from fertilization forward. Within moments, the Panel was already engaged in a discussion of the significance of gastrulation, twinning, and the formation of a body axis for the definition of the embryo, as well as the biological, social and legal significance of these developmental markers.<sup>48</sup>

The Panel generally accepted the AFS Committee’s conclusions about the preembryo: gastrulation was both a biological and morally significant marker; the primitive streak was a line drawn by nature that should also be drawn in law. But for HERP, unlike for the AFS committee, this was couched as a normative judgment, not a scientific one. Whereas the AFS committee had made a direct leap from biological status to moral status, for the Panel, this step was grounded in an account of public reason. The Panel concluded that gastrulation was a morally significant marker not simply because of the differences in the nature of the embryo before and after, but because a sufficiently large plurality of reasonable moral arguments could be made in favor of protecting the embryo at this stage. Whereas the AFS committee had treated the transition from preembryo to embryo as a decisive change in kind that was given in nature, the Panel approached embryogenesis as a continuum, and the scientific demarcation of stages more as function of judgment than of observation. In this respect, it saw biological description as analogous to moral judgment; both were intended to lend order to complex phenomena.<sup>49</sup> The question, then, was whether a given judgment ordered

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<sup>47</sup> NIH HUMAN EMBRYO RESEARCH PANEL, MEETING TRANSCRIPT 34 (Feb. 2, 1994) (on file with author).

<sup>48</sup> *Id.* at 30–32.

<sup>49</sup> Green reiterated and strengthened this claim repeatedly after he served on the HERP. See RONALD M. GREEN, *THE HUMAN EMBRYO RESEARCH DEBATES: BIOETHICS IN THE VORTEX OF CONTROVERSY* (2001);

things in a reasonable way. Because the judgment about moral status was a public policy matter, HERP argued, no single argument could be decisive so long as there was public disagreement. Moreover, moral intuitions differ about the biological precondition for personhood. Therefore, instead of a single criterion like genetic uniqueness or individuation, the panel took into account “a variety of distinct, intersecting, and mutually supporting considerations.”<sup>50</sup> The key concept here was the notion of the “reasonable.” Here, the Panel leaned on an idea of public reason developed by the American political theorist and moral philosopher John Rawls. Citing Rawls, the report stated that: “Public policy employs reasoning that is understandable in terms that are independent of a particular religious, theological, or philosophical perspective, and it requires a weighing of arguments in the light of the best available information and scientific knowledge.”<sup>51</sup>

Guided by Rawls’ notion of public reason, HERP set about to determine what (and whose) arguments met this test. The Panel took on an arbitrational role, judging moral arguments not on their merits, but on their reasonableness. If the Panel thought reasonable people would find an argument convincing, it was given greater weight. This was based on the Panel’s *imagination* of the reasonable person, not on public consultation. In fact, the Panel specifically did not invite input from the public. Instead, the Panel made a judgment about what kinds of reasons people *ought* to agree upon. And here they agreed with the AFS committee: scientific reasons are common to everyone, at least to everyone who is reasonable.

The Panel treated accounts that invoked scientific evidence as closer to public reasons—closer to the sorts of reasons that reasonable minds by definition will agree upon. HERP thus narrowed the sorts of moral arguments that had to be taken into account in public deliberation. The Panel drew the circle of reasonable pluralism, and placed science at the center.

The moral views that made it into the circle were those that most directly corresponded with scientific evidence. In weighing arguments, the Panel privileged those that it thought could be challenged only through recourse to background moral and religious beliefs, or, in Rawls’ terms, “comprehensive doctrines.” Conversely, it excluded arguments that it deemed to depend on comprehensive doctrines, particularly religious ones. For instance, the Panel claimed that the theological belief that the embryo is ensouled at fertilization is unreasonable because the individual is definitively present only at gastrulation—before that the embryo can split into two.<sup>52</sup> Conversely, the belief that the embryo is not a person until after the formation of the primitive streak is reasonable, because it is justified by reference to universal and incontestable scientific reasons, not controverted theological ones.<sup>53</sup> The Panel treated accounts that invoked scientific evidence as

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Ronald M. Green, *Stem Cell Research: A Target Article Collection, Part III—Determining Moral Status*, 2 AM. J. BIOETHICS 3, 20 (2002); Ronald M. Green, *The Ethical Considerations*, 286 SCL. AM. 48 (2002).

<sup>50</sup> AD HOC GRP. OF CONSULTANTS TO THE ADVISORY COMM. TO THE DIR., NAT’L INST. OF HEALTH REPORT OF THE HUMAN EMBRYO RESEARCH PANEL 38 (1994).

<sup>51</sup> *Id.* at 39–40.

<sup>52</sup> *Id.* at 47.

<sup>53</sup> *Id.*

closer to public reasons—closer to the sorts of reasons that reasonable minds would find intelligible and compelling. Thus, whereas the AFS committee privileged scientific authority on technocratic grounds, the Panel offered a democratic theory that positioned science as an exemplar of reasonableness, and a measure against which to judge other kinds of reasons.

In this way, the Panel positioned itself as a judge of reasons and arbiter of the community of judgment. It positioned itself as standing in for the public by performing public reason, by balancing those reasons it deemed reasonable until preponderance tipped the scale. By considering only those reasons it deemed to be publicly reasonable, it likewise assumed the role of safeguarding the rational integrity and political legitimacy of judgment.

This idea of public reason also shaped how the Panel engaged the public. It tended to exclude non-expert voices. From early in its deliberations the panel was convinced that the majority of Americans did not understand the issues well enough to hold reasonable positions, so there was no need to solicit public input. It used public ignorance and the idea of public reason to justify its representational role. When critics objected that the Panel membership was personally biased toward permitting embryo research, Panel members agreed, but denied that this undermined the Panel's legitimacy. They argued that the Panel nevertheless represented the public because its job was to reason on behalf of the public, not to embody public disagreement in its various factions. The Panel could stand in for the public by doing the sort of reasoning that the politics in the public square had failed to do. In this sense, the Panel saw itself as closer to an ideally reasonable deliberative community than could *ever* be achieved in the public square. By stepping in as an arbiter of public reasons, the Panel constructed an authoritative space for ethical experts—experts who did not necessarily *know* better than the citizen, but who could reason on the citizen's behalf.

HERP recommended that research on left-over IVF embryos be permitted prior to gastrulation, and that embryos be created specifically for research purposes under certain circumstances. In December of 1994, NIH director Harold Varmus endorsed these recommendations. Shortly thereafter, Congress passed legislation banning federal funding for any research in which a human embryo is harmed or destroyed. An appropriations bill rider known as the Dickey-Wicker Amendment placed embryos in the regulatory category of human subjects, sidestepping the ontological question by employing an existing ethical and legally defined category. But things quickly become ontologically murky once again following two key scientific developments: Dolly the cloned sheep in 1997, and the derivation of human embryonic stem cells in 1998.

## V.

The National Bioethics Advisory Commission (“NBAC”) was created by the executive order of President Clinton in 1995. After scientists announced that they

had successfully cloned a sheep using an adult somatic cell, Clinton called upon NBAC to assess the ethics of human cloning.<sup>54</sup> He also called upon the Commission to examine issues associated with human embryonic stem cell research after embryonic stem cells were cultured by researchers at the University of Wisconsin in late 1998.<sup>55</sup>

NBAC's approach reflected the procedural and principlist elements of professional bioethics, but as a public body it also acknowledged the plurality of moral approaches represented in the American polity. To accommodate the fact of pluralism, the Commission undertook to translate pluralistic particularities into democratic universals. As Commissioner Charo explained to the House Subcommittee on Health and Environment, NBAC would solicit the "widest possible range of views so that no aspect of public sentiment is left unexplored."<sup>56</sup> By mobilizing the full range of American pluralism, the commission promised to represent every citizen while also locating premises held in common beneath pluralistic disagreement. According to Commissioner Tom Murray, public deliberation would benefit from encountering the "strongest representations" of differing positions on cloning.<sup>57</sup> In practice, this meant soliciting religious views. Representatives of a range of religions were brought in to testify and were told to speak in explicitly theological terms.

NBAC differed from HERP not only in what sort of input it sought, but how it understood that input. While HERP had privileged reasons that were grounded in science, NBAC treated all disagreement over embryo research as moral disagreement. NBAC's equalizing move created an important asymmetry. Whereas HERP had subjected all claims to the same test of reasonableness, NBAC treated scientific and moral questions as epistemologically separate, and therefore as belonging to a distinct sphere of authority.

The Commission thus ignored competing ontological representations. This was significant, because recent scientific developments had generated significant controversy over the biological status of its ambiguous, new artifacts. For example, just after scientists reported that they had succeeded in culturing human embryonic stem cells, the *New York Times* reported a bizarre experiment conducted by Advanced Cell Technologies ("ACT"), a small biotechnology company. An ACT-supported researcher had transferred human somatic cell nuclei into bovine oocytes, producing several cleavage stage "embryos" from which cells were derived and cultured.

The company's stated intention in making the experiments public was to test the "public acceptability" of the research. Finding that the results were insufficient

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<sup>54</sup> K. H. S. Campbell et al., *Sheep Cloned by Nuclear Transfer from a Cultured Cell Line*, 380 NATURE 64 (1996).

<sup>55</sup> James A. Thomson et al., *Embryonic Stem Cell Lines Derived from Human Blastocysts*, 282 SCIENCE 1145 (1998).

<sup>56</sup> *Cloning: Legal, Medical, Ethical, and Social Issues: Hearing Before H. Subcomm. on Health and the Environment*, 105th Cong. 36 (1998) (statement of R. Alta Charo, Comm'r, Nat'l Bioethics Advisory Comm.).

<sup>57</sup> *Biotechnology and the Ethics of Cloning: How Far Should We Go?: Hearing Before the H. Subcomm. on Tech. of the H. Comm. on Sci.*, 105th Cong. 26 (1997) (statement of Tom Murray, Chairman, Genetics Testing Subcomm. of the Nat'l Bioethics Advisory Comm.).

to warrant publication in a scientific journal, the company decided that it “was in the public interest to release the preliminary results to promote an informed and reasoned public discussion of the issues.”<sup>58</sup>

The announcement elicited anxiety from numerous quarters. Many observed that this ontologically ambiguous, boundary-crossing entity had complicated processes of ethical sense-making as well. Glenn McGee, a professor of bioethics at the University of Pennsylvania, declared that ACT had created an ontological ambiguity that would not make things any easier for ethicists. “What this whole business shows is that we are in a regulatory nightmare[.] . . . It’s going to be impossible to state whether these things are really human, let alone how to protect them.”<sup>59</sup> Nicholas Wade of the *New York Times* noted, “[a] perplexing feature of the hybrid embryo would be that it would start mostly bovine, then become mostly yet not entirely human.”<sup>60</sup> A “deeply troubled” President Clinton requested that the National Bioethics Advisory Commission consider the implications of ACT’s research and report back within the week.<sup>61</sup>

The ACT experiment challenged the categories that underwrote NBAC’s strong distinction between ontological and ethical evaluation. Using the law’s familiar mode of analogical reasoning, Commissioner and lawyer R. Alta Charo suggested that “part of the analysis that one would want to develop for the President could focus on what this fused cell is most like that we already know. Is it most like two non-gametic cells that are fused, or is it most like a regular human embryo, or is it most like something else?” Stanford geneticist David Cox supplied an authoritative answer: “It’s new, Alta, is what it is.” Yet in its response to President Clinton, the Commission expressed uncertainty about the ACT experiment while at once affirming that a clear (scientifically authoritative) classification was an obligatory passage point into ethical analysis. According to NBAC, it was unclear whether the “construct” was an embryo, by which they meant “an organism . . . which has the potential, if transferred to a uterus, to develop in the normal course of events into a living human being.”<sup>62</sup> If it was, it raised “complex and controversial” concerns.<sup>63</sup> If not, the research raised no new ethical issues.<sup>64</sup>

By punting on the question of who is responsible for saying what a biological entity *is*, the Commission sidestepped the very problem of ontological politics that had given rise to the problem of “moral status” in the first place. On NBAC’s view, ethical analysis could proceed without resolving the status of the entity because legitimate democratic disagreement was, by definition, disagreement over questions

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<sup>58</sup> *Biotech Company Says Nuclear Transfer Research Blocked by Policy Confusion*, REUTERS HEALTH MED. NEWS, Nov. 13, 1998, § Media.

<sup>59</sup> Rick Weiss, *A Cloning Claim’s Controversies*, WASH. POST, Nov. 13, 1998, at A03, available at <http://www.washingtonpost.com/wp-srv/national/science/cloning/keystories/111398.htm>.

<sup>60</sup> Nicholas Wade, *Researchers Claim Embryonic Cell Mix Of Human and Cow*, N.Y. TIMES, Nov. 12, 1998, § A.

<sup>61</sup> NAT’L BIOETHICS ADVISORY COMM’N, ETHICAL ISSUES IN HUMAN STEM CELL RESEARCH app. at 88 (1999) (Letter from President William J. Clinton to Dr. Harold T. Shapiro, Chair, National Bioethics Advisory Commission).

<sup>62</sup> *Id.* at app. 90–91 (Letter from Dr. T. Harold Shapiro to President William J. Clinton).

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

of values. Ontological and normative questions were, therefore, subject to two very different institutions: science and democracy respectively. The process of answering fact questions belonged to a different deliberative community employing different criteria of evaluation. Each could proceed independently of the other, with their respective results ultimately linked together in forming policy.

By erecting a strong boundary between science and democracy, the Commission was able to attribute all public disagreement to the fact of reasonable pluralism. Rather than simply exclude (putatively) theologically informed ontological accounts from the mix as the Human Embryo Research Panel had, NBAC took the opposite tack. It treated accounts of what the embryo is as primarily moral (and theological) and secondarily epistemic. Put differently, the Commission judged that if ontological questions were important in ethical debates, it was only because some system of values had attached particular meanings to them. These meanings could be dissociated from the ontological questions, and treated as yet one more moral account in the range of plural perspectives. Controversy over the embryo was a straightforward result of moral heterogeneity within the polity.

By characterizing these ontological debates as covertly moral, NBAC bounded moral deliberation from ontological sense-making and separated problems of knowing accurately and reasoning well. As one commissioner put it, “let’s stop staring at the embryo and looking for the source of its meaning,” and instead look “at its context in our lives, including how and why it was brought into creation.”<sup>65</sup> Representing the embryo meant uncovering the pluralistic moral representations of the embryo, and exposing whatever common principles lay beneath them. The disagreements that the AFS committee expected to resolve through technocratic clarification of ontological confusion, NBAC treated as moral disagreement by other means. Moral status ceased to be a problem of how to relate to the embryo, and instead became a problem of how to relate one person’s moral convictions to the next’s.

Thus, the Commission abandoned the search for consensus in an ontological account of what an embryo is, and instead gathered the “input of a group of religious scholars from diverse faith traditions whose views within and across traditions reflected the diversity found within the public as a whole.”<sup>66</sup> Indeed, the commission instructed witnesses who were meant to represent religious perspectives to speak in explicitly theological terms. Bioethicist Gilbert Meilander was asked to represent a Protestant perspective, even though his scholarship was disciplinarily closer to bioethics than to Protestant theology. He noted that, although he had been directed to speak in explicitly theological terms, he could have made very similar arguments without drawing on Protestant theology in any way. Lisa Cahill was asked to present a Catholic perspective. She too assumed a theological idiom, but noted that NBAC’s boundary construction enforced an artificial distinction between theological and secular (including scientific)

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<sup>65</sup> Steve Holtzman, Remarks at the 31st Meeting of the National Bioethics Advisory Commission 228 (May 11, 1999).

<sup>66</sup> NAT’L BIOETHICS ADVISORY COMM’N, *supra* note 61, at 4.

reasoning. She noted that many of the Catholic arguments were grounded more in natural law theory than in Catholic dogma.

This strategy appears to be at odds with the ideas of public reasoning and democratic legitimacy that the Commission endorsed. It wrote, “an appropriate approach to public policy in this area is to develop policies that demonstrate respect for all reasonable alternative points of view and that focus, when possible, on the shared fundamental values that these divergent opinions, in their own ways, seek to affirm.”<sup>67</sup> In seeking religious perspectives, it was soliciting reasons that *diverged* rather than converged on “shared fundamental values.” NBAC resolved this contradiction through three related ideas of representation. First, it treated religious accounts as the furthest removed from overlapping consensus in public views. By capturing the diversity of religious views, the full range of moral views held by “the public as a whole” were adequately represented. These views constituted a kind of snapshot of raw (pre-reasonable) pluralism. Views expressed in terms of “comprehensive doctrines” captured the forms of divergent disagreement that had not taken any steps toward translation into public reasons. Second, as noted above, it segregated representations of facts from representations of values by treating ontological disagreements as value-interpretations. Third, it positioned itself as serving a particular kind of representational role by performing public reasoning on the public’s behalf. Its aim was to discover an incipient overlapping consensus in the picture of divergent disagreement that it had assembled. It assumed that overlapping consensus was possible, but the public had failed to achieve it on its own because it was not adequately committed to (or capable of) finding the “shared fundamental values that these divergent opinions, in their own ways, seek to affirm.” This third representational move depended upon the other two. By soliciting reasons that demonstrably failed the test of being “acknowledged by all as reasons,”<sup>68</sup> on the one hand, and designating ontological questions as being beyond—and irrelevant to—its remit, it marked out the boundaries of appropriately public reasons. The problem of society’s relationship to the embryo, and the corollary question of its moral status, gave way to an ontology of public reason. In effect, the *moral* problem of moral status became dissociated from the embryo as an entity in the world.

In soliciting theological perspectives, NBAC made two key assumptions. First, it treated the distinction between fact and value as epistemologically unproblematic. This is remarkable not only in light of the ontologically ambiguous entities discussed above, but also because most of the witnesses grounded their ethical accounts of how the embryo should be treated in accounts of what the embryo *is* and in notions of what biological features they considered relevant to moral judgments. In short, ethical evaluations tended to be grounded in (somewhat divergent) ontological accounts. By drawing a strong boundary between fact and value, the Commission absolved itself of having to deal with the problem of the right relationship between scientific authority and democratic authority. Public moral sense-making then became a procedural matter of reconciling the range of

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<sup>67</sup> *Id.* at 51.

<sup>68</sup> Cohen, *supra* note 2, at 186.

views that liberal democracy permitted.

Second, it assumed that, where there is agreement on matters of fact among experts, public disagreements must necessarily be over values, even if couched as disagreements over matters of fact. Therefore, to bring all moral views out into the open, it would be necessary to translate disagreements on matters of fact into a values idiom. As a result, the authority of competing claims would be grounded in nothing beyond the right of individuals to hold their own moral and religious views.

With these assumptions NBAC set out to analyze and mediate moral disagreement. It assumed the role of translating religious (nonpublic) reasons into secular, ethical (public) reasons in order to bring them in line with the rules of public reason. The Commission's Stem Cell Report quoted political theorists Dennis Thompson and Amy Gutmann: "[T]he construction of public policy on morally controversial matters should involve a 'search for significant points of convergence between one's own understandings and those of citizens whose positions, taken in their more comprehensive forms, one must reject.'"<sup>69</sup> For Gutmann and Thompson, this is a normative requirement of democratic deliberation and policy formation. Given the fact of reasonable pluralism, a procedural means is required to move from disagreement to democratically legitimate resolution. The ideal means, they argue, is robust deliberation in which imbalances in political power and understanding are neutralized. Therefore, everyone must adhere to certain norms of engagement in the public square. The most important norm is "reciprocity." The principle of reciprocity requires that "[w]hen citizens make moral claims in a deliberative democracy, they appeal to reasons or principles that can be shared by fellow citizens . . ."<sup>70</sup> These reasons should be "recognizably moral in form and mutually acceptable in content."<sup>71</sup> A claim fails the test of reciprocity when "it imposes a requirement on other citizens to adopt one's sectarian way of life as a condition of gaining access to the moral understanding that is essential to judging the validity of one's moral claims." In keeping with Rawls as discussed above, Gutmann and Thompson briefly note that another element of reciprocity is the "plausibility" of fact claims.<sup>72</sup>

The Commission sought as "wide a set of views as possible," and discerned the "points of convergence" between these views. It translated reasons that were closed to general moral understanding—explicitly theological reasons, for example—into reasons that "could be shared by fellow citizens." The role of the public bioethics body, as NBAC saw it, was to translate nonpublic (i.e., religious) reasons into a secular, ideologically neutral, normative idiom that could, as far as possible, unify the moral pluralism of the American public. NBAC, like HERP before it, drew a Rawlsian distinction between public and nonpublic reasons. The Commission maintained that for public policy to be legitimate, it had to be grounded in "the shared fundamental values that . . . [all reasonable alternative points of view] in

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<sup>69</sup> NAT'L BIOETHICS ADVISORY COMM'N, *supra* note 61, at 51 (citation omitted).

<sup>70</sup> GUTMANN & THOMPSON, *supra* note 11, at 55.

<sup>71</sup> *Id.* at 57.

<sup>72</sup> *Id.* at 56.

their own ways, seek to affirm.”<sup>73</sup> “Reasonable” here meant simply that a moral position could be translated into a common, secular currency. For NBAC, the appropriate limits of pluralistic representation corresponded with the limits to translation: public policy should incorporate only those positions that can be translated into generic, common principles.

In discussion, Commissioners tended to distinguish between the “religious” and the “ethical,” which meant nonpublic and public reasons respectively. Certain Commissioners repeatedly commented on the difficulties of translating the former into the latter. Translation became a gate-keeping device; if Commissioners could not come up with what they thought was a reasonable translation of a theological claim, they excluded it. During the cloning deliberations, Tom Murray said,

I was one of the people . . . who repeatedly asked the religiously-oriented thinkers at our last meeting if they could also try to state their concerns in ways that would be accessible to those who did not necessarily share all their faith commitments. I am going to continue to do that because it is one thing to say that we should respect your belief just because you hold this belief deeply, and I think we should respect those beliefs, but it is difficult to know exactly what to do with that when one comes to making public policy.<sup>74</sup>

For NBAC, translation from religious to secular reasons was not a matter of merely scratching out references to God and seeing whether the resulting sentence was still coherent. It was a means for transforming half-formed moral declarations into rationally coherent arguments that abided by the rules of public reason, including in particular, rational consistency. Sometimes this meant uncovering putatively tacit elements of a moral position—elements that the proponent of that position would not necessarily recognize as his or her own. For instance, the stem cell report leaned on an argument from philosopher Ronald Dworkin about abortion. Dworkin argued that few anti-abortion Americans genuinely believe that the conceptus is a person.<sup>75</sup> Those who accept abortion in cases of rape or incest, for instance, hold moral positions that are inconsistent with a position of fetal personhood.<sup>76</sup> Since anyone engaged in public moral deliberation is bound by a commitment to consistency, the only way to resolve this apparent inconsistency is to recognize that the anti-abortionist is in reality open to balancing harm to the fetus against other harms or goods.<sup>77</sup> NBAC treated this discovery of openness to balancing as a “shared view” of proponents and opponents of embryo research.<sup>78</sup> On this basis, NBAC concluded that since most defenders of nascent human life were unwittingly open to balancing protection of the embryo against other goods,

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<sup>73</sup> NAT’L BIOETHICS ADVISORY COMM’N, *supra* note 61, at 51.

<sup>74</sup> Tom Murray, Commissioner, Remarks at the Meeting of the National Bioethics Advisory Commission 12 (Apr. 13, 1997).

<sup>75</sup> RONALD DWORKIN, *LIFE’S DOMINION: AN ARGUMENT ABOUT ABORTION, EUTHANASIA, AND INDIVIDUAL FREEDOM* (1st ed. 1993).

<sup>76</sup> *Id.* at 95–97.

<sup>77</sup> *Id.* at 97.

<sup>78</sup> NAT’L BIOETHICS ADVISORY COMM’N, *supra* note 61, at 51.

destruction of embryos is permissible to secure compelling therapeutic benefits. The Committee described this conclusion as a “reasonable statement of the kind of agreement that could be possible.”<sup>79</sup>

Thus under NBAC, the public ethics body became an organ of democratic deliberation grafted onto the body of existing American institutions to rectify a new kind of failure in the public square: the failure to reason properly about a morally complex technical domain. By assuming this role as guardian of public reasoning and applying its rational acuity to problems of pluralistic disagreement, NBAC would nurture moral arguments beyond the limits of the citizen’s own philosophical faculties and produce ideally democratic deliberation without relying on the polity itself to do the deliberating. Yet equally noteworthy is the kind of reasoning that NBAC imagined to be ideal. NBAC in effect made itself a moral calculating machine. It defined the rules of the game by operationalizing the norms of public reason. Democracy would be achieved through a kind of philosophical-bureaucratic commensuration of (pre-reasonable) values claims by subjecting them to tests of internal consistency and translatability into a common, secular idiom. Its approach was predicated on the notion that facts and values are self-evidently distinct, and are subject to completely separate regimes of justification. The consequence was that the ontological—and moral—ambiguity of the material world was removed from the calculative picture. The subject of moral deliberation ceased to be the instrumental use of the human embryo, and became the mechanical extraction of legitimately democratic moral principles from the public’s (nonpublic) reasoning. Knowing what was right in the light of public reason was artificially severed from the problem of right knowledge of things in the world. And the authority to declare what a thing *is* such that society’s *oughts* could be made to apply to it was thereby delegated to science.

It is worth noting, therefore, that NBAC’s calculative process was organized by a balancing test whose parameters were defined by science. In weighing public moral concerns against promised scientific benefits, it deferred to scientific imaginations of plausible technological futures. It asymmetrically subjected public concerns to critical scrutiny without similarly questioning scientific imaginations of the future and the visions of the good with which they are inflected. Indeed, on NBAC’s dogmatic demarcation between matters of fact and matters of value, it is not clear how such symmetrical scrutiny could be undertaken. But given the profoundly powerful role that science plays in public moral sense-making by virtue of its authority to declare what *is* and to predict what shall be, this very fact suggests a profound pathology in NBAC’s imagination of reason.

#### CONCLUSION

It is commonplace to mark science and technology’s extraordinary powers over life with the epithet of revolution. “Biological revolution” evokes rupture and transformation, a discontinuity between life as we know it and our lives to come.

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<sup>79</sup> *Id.* at 52.

Yet revolution is a political concept. This Article has argued that the biological revolution is wrought as much in the laboratories of democracy as in the experimental spaces of technoscience. New biotechnologies have disturbed fundamental but delicate formations in the landscape of collective life; rendering urgent the question of by what criteria we will determine inclusion in the moral community. As this Article has demonstrated, those criteria are at once ontological and political: our ethical postures toward the human at the boundaries of life are refracted through the circle of politics and in the imaginations of reason that inscribe it.

I have followed the “idea of public reason” as a construct in democratic theory into arenas of political practice where fundamental dimensions of human life—biological and political—are at stake. I have argued that the idea of public reason, deployed in these contexts, was used to discipline public discourse according to criteria that were not democratically derived. Drawing upon the authority of science as a source of incontestable reasons, public bioethics bodies narrowed the forms of disagreement and the range of reasons that they would recognize as appropriately public, relegating to the domains of nonpublic reasons moral imaginations that would not easily conform to declared distinctions between fact and value, secular and religious. I have argued that these bodies positioned themselves as legitimately standing in for the public by claiming to represent public reason, disciplining democracy and silencing public voices in the name of the self-same democratic public.

These bodies represent only a few modest experiments in democracy’s wide laboratory. But they are sites where we can see modernity’s powerful imaginaries touch down and develop in novel forms and directions. They are moments where the vernacular of public reason is refined and altered, and where the basic normative vocabularies that regulate the democratic imagination take on altered meanings. I have argued that the boundaries between the secular and the religious, and between the ontological and the normative—boundaries that the idea of public reason takes as given in advance—were refined and reconstructed in these moments.

These were moments of secularization, but as such were expressions of agency and imagination, not of some logic of historical progress that inhabits our institutions. Secularization, like its cousin concept scientific progress, is too readily naturalized to an imaginary of modernity’s inevitable forward march. Yet when we look closely at the practices of the institutions that are ostensibly shaped by these overarching logics, we see that these logics are, in fact, enacted in the practices of these very institutions. Understanding how they are enacted, and in deference to what under-scrutinized imaginations, therefore becomes an urgent task. One critical element of this task is to attend to the remarkable absence of science in contemporary theories of politics.

The institution of science is perhaps the defining achievement of secular modernity. If we refuse to take modernity’s defining categories as natural and given in advance, we must look also to the forms of power that reside with this institution. To this end, we must attend to the constructions of reason that define

the social contract between science and democracy, and to the constitutional position of science in arenas of collective moral sense-making.

Imagining public reason is a problem for—and a privilege of—democracy. In the cases examined in this essay, the idea of public reason was wielded as a device of exclusion, weeding out those voices that spoke in an unsanctioned idiom and disciplining moral imaginations into a homogenized false pluralism. An exercise of power was undertaken in the name of freedom and equality. Yet the reservoir of authority that was drawn upon to this end is not in the conventional pantheon of institutional power. Therefore, the exercise of exclusion is not easily recognized as such. In our collective imagination, the institution of science seems to sit outside the arena of politics. Science is called upon to assume responsibility for forms of complexity, ambiguity and disagreement that we would rather not have to shoulder as a society, that we would rather have spoken by the faceless authority of the fact than through our own, far less powerful, far less univocal, but far more personal voices.

To the persistent fact of reasonable pluralism, science seems to offer a univocal view from nowhere, and thus a powerful resource for contending with disagreement by reducing the range of reasons which democracy must entertain. Yet at its most fundamental level, the purpose of deliberative politics is not merely to ground the exercise of power in robust procedures of collective judgment, although this is a venerable aim. Its most profound promise lies in the commitment to respect and harness the richness of collective moral imagination “lest one good custom should corrupt the world.”<sup>80</sup> The challenge, then, is to recognize reason itself as inhabiting the practices, institutions and imaginations whereby we arrive at accounts we deem to be right—true to the world as we know it, and as we wish it to be.

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<sup>80</sup> Alfred Tennyson, *The Passing of the King*, in *IDYLLS OF THE KING* 299 (J.M. Gray ed., 1989).