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Political Bioethics

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If bioethical questions cannot be resolved in a widely acceptable manner by rational argument, and if they can be regulated only on the basis of political decision-making, then bioethics belongs to the political sphere. The particular kind of politics practiced in any given society matters greatly: it will determine the kind of bioethical regulation, legislation, and public policy generated there. I propose approaching bioethical questions politically in terms of decisions that cannot be "correct" but that can be "procedurally legitimate." Two procedures in particular can deliver legitimate bioethical decisions, once combined: expert bioethics committees and deliberative democracy. Bioethics so understood can exceed bioethics as a moral project or as a set of administrative principles to regulate medical practice; it can now aspire to a democratic project that involves ordinary citizens as far as reasonably possible. I advance this argument in four steps: (1) using the example of human germline gene editing, (2) I propose a general understanding of proceduralism, and (3) then combine two types and (4) conclude with a defense of majoritarian proceduralism. I develop this argument in terms of one example: germline gene editing.

Keywords: *deliberative democracy, expert committees, germline gene editing, politics in bioethics, proceduralism, thick and thin norms*

I. INTRODUCTION

I argue that bioethics is politics: that bioethics belongs to the political sphere insofar as it involves decisions that cannot be "correct" but can be "procedurally legitimate." I also argue that we should approach bioethical questions

politically, in terms of proceduralism. And I argue that two procedures in particular, once combined, can deliver legitimate bioethical decisions. With these two claims I develop a notion of a specifically *political* bioethics that goes beyond bioethics as a moral project, or as a set of administrative principles that regulate medical practice, to propose that bioethics should aspire to a democratic project that involves ordinary citizens as far as reasonably possible.[1]

I advance my argument in four steps. First, I develop the thesis with the example of human germline gene editing. Second, toward coping with the bioethical questions raised by gene editing, I propose a general understanding of proceduralism. Third, I combine two types of proceduralism: expert bioethics committees and deliberative democracy. I conclude with a defense of majoritarian proceduralism.

II. THE CLAIM THAT BIOETHICS IS POLITICS

I argue that *bioethics is politics* not in the agreeable sense of a triumphal march toward an ever better society[2] providing ever greater justice but in the disquieting sense of competition: among value commitments and without end. By *politics*, I mean disagreement in the public sphere about issues that require decision for regulation, legislation, or public policy.[3]

Likely no answer to a bioethical question can claim universal validity inasmuch as bioethical questions are matters of normative preference. And these are socially constructed and historically contingent. Normative preferences differ within communities and among them. Competing viewpoints rarely converge. The existence of stable disagreements does not necessarily show that there are no bioethical truths. Rather, stable disagreements show that, even if there is truth in this sphere, we have not been able to recognize it. In natural science, by contrast, we assume that (ideally and ultimately) questions have one correct answer, that every correct answer is correct for all persons at all times in all places, and that all debates eventually will converge on a single answer. To be sure, scientific inquiry does not end in stability: any answer is challengeable and new data or models may qualify or reject what was thought to be a correct answer. Scientific research is a fundamentally inconclusive project.

To explore the political quality of bioethical claims, I examine several genetic technologies able to make heritable changes to the human germline by altering the DNA sequences of embryos. Such technologies may have unintended consequences, given the complexity of "gene-environment interactions" as well as of the "pathways of disease (including the interplay between one disease and other conditions or diseases in the same patient)" and given "limits to our knowledge of human genetics" (Baltimore et al., 2015, 37).

I draw first on Gyngell, Douglas, and Savulescu's (2017, 499) observation that "roughly 6% of all babies born have a serious birth defect of genetic or partly genetic origin." The authors advocate germline engineering to "prevent genetic disease"—with the qualification, "if proven acceptably safe." Engineering seeks to prevent disease in future people. Toward that goal, germline gene editing may offer a "novel treatment for single gene disorders" *and* contribute to overcoming polygenic disease (Gyngell, Douglas, and Savulescu, 2017, 503).

The technique offers some couples the "only way to avoid passing on single gene disorders" (Gyngell, Douglas, and Savulescu, 2017, 500) in cases where neither in vitro fertilization (IVF) nor preimplantation genetic diagnosis (PGD) is possible. PGD is used prior to implantation to help identify genetic defects within embryos so as to prevent certain genetic diseases from being passed on to the child. The embryos used in PGD are usually created during the process of IVF.[4]

Whereas PGD and IVF are "not powerful enough to select against polygenic diseases," germline gene editing "allows multiple changes to be made to a single embryo" and thus may "target many different genes simultaneously" (Gyngell, Douglas, and Savulescu, 2017, 501). Multiple targeting is important because the majority of common diseases result not from single gene mutations but from a "polygenic disposition together with environmental influences." Diabetes involves at least 44 genes, for example, and common cancers, more than 300 (Gyngell, Douglas, and Savulescu, 2017, 501).

In this context, we observe a political dimension where Gyngell and colleagues do not take seriously the possibility that applying a technology designed to prevent genetic disease unintentionally might generate "new forms of inequality, discrimination and societal conflict" (Gyngell, Douglas, and Savulescu, 2017, 509). Consider unequal access to technology—unequal because not everyone can afford it. Those who can likely will be better off along several, interrelated dimensions, from socioeconomic status to level of educational achievement. Unequal access reinforces the social position of better-situated persons and discriminates against weakly situated ones. In these circumstances, not the technology itself but unequal access to technology reveals a political dimension as inherent in some bioethical questions.

We see another political dimension in the fact that many technologies designed for *therapy* (i.e., treatment of an illness or disease) can equally be applied toward *enhancement* (i.e., improvement on a condition not in any way pathological). Such technologies include Lasik eye surgery, preimplantation genetic diagnosis, and plastic surgery. This dimension is political because the therapy/enhancement distinction here is inherently ambivalent, that is, difficult to determine in ways that are unambiguous and likely to be widely embraced. Hence it cannot be correct to say that such technologies are necessarily therapeutic or, alternatively, necessarily enhancing. The term *political* then refers to the competition among different perspectives, each

seeking to distinguish acceptable therapy from unacceptable enhancement. That competition cannot be settled by an appeal to truth even as, on a continuum from clearly acceptable to clearly unacceptable, cases at either end are less perspectival than cases in the middle. Correspondingly, this competition reveals the perspectival quality of determining whether applying such technologies is morally desirable or morally objectionable. Thus someone opposed to using technology to *enhance* individuals who are not ill or diseased, yet who advocates its use toward *therapeutic* ends, confronts this political dimension as well.[5]

A political dimension emerges in another claim: that it is "doubtful that the embryo is the type of entity that can be harmed, or at least, harmed in a morally significant way. The embryo does not have experiences or desires, and on some accounts of wellbeing, entities that lack experiences and desires have no wellbeing and thus cannot be harmed" (Gyngell, Douglas, and Savulescu, 2017, 504). The political element here has to do with the fact that morally significant harm can be configured in many different ways. The Catholic Church, to take a prominent example, has a view very different from Gyngell and colleagues. It regards the embryo as morally vulnerable to almost any intervention. Given the impossibility of deciding rationally between or among such competing views, the task for society here is again political: any public policy decision must choose among incompatible alternatives—and it must do so as a matter of normative preference rather than empirically verifiable truth. A bioethics that regards itself as operating on a plane above politics—a moralized bioethics, for example—cannot address this task.[6] But a liberal democratic community (unlike, say, an authoritarian political community) aspires to a significant degree of freedom of individual conscience (hence tolerates freedoms of conscience, expression, and religious belief and practice). Correspondingly, a liberal democratic community aspires to some degree of decisional autonomy for adult patients. A moralized bioethics, as moralized, would impose particular value commitments. In so doing, it would violate this liberal democratic notion of political community.[7]

After all, normative preferences are political when they reflect competition that matters in the formation of regulation or public policy. And in setting public policy, the competition with the greatest influence often is among elites. The doctrine-makers of a world religion constitute one kind of elite. In modern societies, religious faiths function as private not public organizations and are subject to laws that separate church and state (hence the state may neither favor nor disfavor any particular faith, and legislators violate the constitution if they base legislation or public policy on their religious beliefs).

The European Parliament is a different kind of elite. It has the authority to pronounce policy on behalf of all EU citizens. In doing so, it projects various particular value commitments onto a very heterogenous population. It can do so even if its pronouncements are intellectually dubious. A 1997

resolution, for example, states that the cloning of human beings constitutes a "serious violation of fundamental human rights and is contrary to the principle of equality of human beings, as it permits a eugenic . . . selection of the human race" and "offends against human dignity." The Parliament further declared that "each individual has a right to his or her own genetic identity."[8] These statements are deeply problematic. First, the notion of a human right not to be cloned is incoherent: the donor and the cloned would never be identical (given unavoidable environmental and experiential factors that distinguish each organism from every other). Second, cloning entails nothing about the social or legal equality or inequality of donor and the cloned. Third, the authors of the resolution appear to use the term *eugenic* to appeal to readers' emotions (of fright and disgust) through the suggestive power of words. Yet the term is used in many different ways and only some of them have negative connotations (Bashford and Levine, 2010). Fourth, the question of whether the term *human dignity* refers to anything more than respect for individual autonomy is hotly contested. Cloning cannot threaten individual autonomy. Finally, one in every 270 births is an identical twin and a twin is a kind of natural clone (Harris, 2016, 8). If one argues that "natural" clones do *not* violate every set of twins' putative equal right to an individual's "unique" genetic identity, then one cannot easily argue that artificial clones *do* violate some such right. In short, the Parliament's declaration misconstrues the scientific understanding of genetic identity and practices a poor form of politics: poor because a normative opinion based on misunderstandings if not ignorance of scientific fact.

A scientific elite differs from both religious and political elites, with whom scientific fact does not necessarily carry weight in all cases, as the following examples show. To be sure, individual scientists have normative commitments and worldviews of their own that may be in tension with their disciplines.[9] And all scientists are exposed to, and some are influenced by, at least some corporations, advocacy and nongovernmental organizations, as well as governmental agencies that may have some interests that conflict with the imperatives of scientific truth. Recently examples include such areas as climate change,[10] agricultural biotechnology, endangered species and biodiversity, and nuclear waste disposal, among others.

In 1998, another political elite, the Council of Europe, declared a prohibition of human cloning.[11] But the Council nowhere explained how or why its prohibition can be based on what the Council referred to as "human rights," "human dignity," and "genetic identity." Because they are indeterminate in meaning, these terms are problematic for regulatory purposes until they are specified as to meaning and application.[12] That specification is possible only in terms of complex theories based on particular value commitments unlikely to be shared by all or even most members of a complex modern society. If specification is unlikely ever to be consensual, then practical applications of

these terms within any particular society is likely to be coercive, divisive, and politically destabilizing.

Another example: in 1997, UNESCO's Bioethics Committee proclaimed that the human genome must be preserved as the "common heritage of humanity."[13] But as a product of evolutionary change—a natural phenomenon that exists only within the on-going historical phenomenon of evolution—the human genome cannot be "frozen" at any particular state of evolutionary development. "Unlike the sea," the genome of any organism "has no top, bottom, or shores: it cannot be 'preserved'" (Juengst, 2009, 58). Consider, for example, the spread of lactose tolerance among different human populations. In human infants, the lactase gene is expressed. Once the baby is weaned, this gene shuts down. The introduction of milk into the ordinary diet of some human populations, through the domestication of milk-producing animals, favored those adults who carry the lactase enzyme for now they had a new food source. Over time, 80% of the European population became lactose tolerant. If, therefore, the UNESCO committee intends more narrowly to preserve the "common heritage of humanity" from *human* intervention but not from *natural* evolutionary change, its reasoning succumbs to paradox. For it then falls into the antinomy of distinguishing between humans that are naturally evolved (evidently thereby constituting a "common heritage") and human artifacts (such as genetic manipulations) that evidently violate that common heritage even though human artifacts are expressions of a natural organism and may therefore also be regarded as natural.[14]

Consider another example of a political dimension within a bioethical issue: the claim (for example by Savulescu and Kahane (2009)) that parents are morally obligated to create the biologically best child possible. Bracket the not unproblematic issue of moral obligation and focus on the notion of the "best possible" child. *Best* as defined by what standard? *Political* is the choice of a particular understanding of nature. So is the particular perspective from which one evaluates the merits and demerits of evolved human biology. So is the choice of criteria that would define any given concept of the *best possible child*. After all, nature functions as a *positive* standard when humans value their evolved biology—and then interpret some variations as abnormalities or illnesses, that is, as unwelcome deviations from a standard they themselves construct. Nature functions as a *negative* standard whenever humans would engineer their species in ways that seek improvements to our evolved biology. The choice of criteria that would define any given concept of *improvement* is no less political.

III. COPING WITH POLITICS BY MEANS OF PROCEDURALISM

Proceduralism offers one way of coping with some of these bioethical challenges. It can secure agreement under conditions that otherwise discourage

agreement. General agreement on political and social norms is unlikely where norms calling for deep moral commitment are not widely shared within a society. But if normative differences preclude agreement on many issues, they need not preclude agreement on procedural rules for coping with difference.[15] *Proceduralism* is the notion that no rule is acceptable apart from a formal, agreed-upon method[16] and that an acceptable method yields an acceptable rule. The rule in this context would be the answer to a particular bioethical issue or question.

In a liberal democratic order, tolerant of value pluralism, proceduralism makes collective action possible *despite* enduring differences in the value commitments of its various members. It makes agreement possible because it aspires not to *consensus on substance* but to *legitimacy in form*. Even those persons whose preferences did not succeed in the latest procedural decision may regard the outcome as legitimate. Those who disagree with the winning position may continue to argue against it and to marshal support for their preferred alternative. They may even prevail in a future procedural exercise. Then, through majoritarian democratic institutions, a political community can reach binding because authoritative decisions in regulation, legislation, and public policy and thus can move on, in the name of all members, even under conditions of abiding disagreement.[17] I address two features of proceduralism: (a) its normative thinness[18] and (b) some constraints to which it is subject.

Normative Thinness

A procedure is *normatively thin* if it does not affect the content of the procedure. Voting in a democratic election is an example of proceduralism in this sense. The "content" of the procedure, its *normative thickness*, derives from the particular policy commitments and values of each of the political parties competing for votes. In a fair system of voting,[19] a procedure establishes which party has received the most votes without influencing that outcome.

Another example: the constitution of a modern, liberal democracy guarantees its citizens the freedom of religious belief and practice. Any particular faith is normatively thick as a particular belief-system. Hence if a nation state were to require all citizens to adopt one particular religion, it would thereby *violate* the thick norms of all citizens of other faiths because each faith has its own belief-system (even as some of them may overlap in some ways). Guaranteeing the equal freedom of all faiths neither favors nor disfavors any one faith. In that sense, the rule of freedom of religious belief and practice is normatively thin. It does not violate the thick norms of any faith. In this way it may facilitate their peaceful coexistence. Or more generally: proceduralism can facilitate life within normatively heterogenous communities. It allows for reaching decisions that are binding on members of a society without

presupposing some end or value prior to or independent of the goals in any given case.

To be sure, proceduralism allows for outcomes that are thick not thin. But participants need not identify in any way with the thick norms they nonetheless recognize as legitimate because they can recognize those norms as having been selected on a legitimate basis. Such is the idea of the losing party recognizing the winning party's right to form a government. Or the notion of recognizing the legitimacy of a judicial system even when one disagrees with any particular judicial holding.

To allow for difference in normative viewpoint or moral commitment is to allow for a kind of individual autonomy vis-à-vis other members of a society. In modern, pluralist, societies (and across different societies), groups and individuals regularly need to be able to interact on a normatively thin basis. The normative diversity within the population, or across different populations, in many cases is quite irrelevant to the tasks of modern life.[20] Here individuals, in their respective normative thickness, are *functionally interrelated* even as, in many respects, they are *normatively autonomous* of each other.

The notion of autonomy is a core feature of political liberalism. It values the individual's uniqueness vis-à-vis other persons. The bioethical notion of *patient autonomy* reflects this value. Autonomy should not mean *separation* from others but rather an appreciation of how the individual is involved in various group memberships yet is reducible to none.[21] Medical practice and biomedical research may in some cases regard persons as "isolated individuals, who consent, or refuse to consent, to participate in research" (Childress, 2003, 52). In other cases, it may regard them as members of "various nongovernmental communities, such as the family" or "racial and ethnic groups" (Childress, 2003, 63).

How do we best conceive of patient autonomy? This, too, is a political question. A normatively thin standpoint does not regard the individual in terms of her communal memberships. Or at least: it does not attempt to determine her wishes and choices simply by "reading them off community traditions, beliefs, and values" (Childress, 2003, 52). Rather, it views patient autonomy in terms of "uncoerced choice in accordance with the individual's, subjective perception of her particularistic interests" (Jennings, 1990, 216).

Whatever their differences, all approaches in bioethics regard the individual as a "distinct locus of moral value" (Jennings, 1990, 216).[22] In most cases, the individual's interests would take precedence over the interests of the wider community and over those of scientific and medical research. But maybe not in *all* cases and, if so, then (from a patient's or physician's or family's perspective) no single understanding of patient autonomy would seem to be the best for all persons in all cases.

One familiar question about patient autonomy concerns the relationship between professional expertise and its individual addressee, as in the doctor-patient relationship. On the one hand, in the interests of her health, the patient

may need and want professional expertise. On the other hand, she is vulnerable to medical paternalism precisely because she lacks professional expertise. Patient autonomy seeks to protect and preserve the vulnerable individual's freedom vis-à-vis the power of professional knowledge, and practical skill.

Bioethics might frame this issue as one of *balancing* patient autonomy and medical expertise. Balancing here is not a matter of objective measurement. Determining an *acceptable* level of risk (or a *necessary* level of safety) is contingent, context relative, and depends on particular value commitments. Consider chemical therapies to treat cancer. How is the risk of their high toxicity best balanced against their power to subdue cancer? The risk is so great that, "unlike most other pharmaceuticals licensed for human use," chemical therapies "have never been tested on 'healthy adults' before clinical adoption" (Harris, 2016, 30). Yet their benefits, measured against the lethal nature of cancer, may persuade some patients, and some clinicians, that the risks are acceptable. But not all patients and physicians will be so persuaded. Persons of different thick values will balance the risks and benefits differently.

Consider another example. Mitochondrial disease causes conditions like Leigh's disease, a fatal infant encephalopathy. And it causes other illnesses "that waste muscles or cause diabetes and deafness" (Harris, 2016, 30). Mitochondrial replacement therapy (MRT) inserts the healthy mitochondria of an unrelated person into an embryo containing the nuclear DNA of two other people. In one estimate, MRT "will enable some 2,500 women in the UK to have children genetically related to them" while avoiding terrible diseases (Harris, 2016, 30). But risk/benefit analysis in this context must address the fact that, currently, there is no "alternative for women who want their own genetically related offspring" and that "many women will continue to desire their own genetically related children and will continue to have them if denied or unable to access MRT"—and that, without MRT, these women will "perpetuate the occurrence of disease" (Harris, 2016, 30). Again, we observe balancing as a matter of coping with competing values that different people may well weigh differently. In this sense, balancing is political as a means of coping with irreconcilable differences under social and legal conditions in which an authoritative decision must be made.

Substantive Constraints

I turn now to how proceduralism is constrained in several substantive ways. After all, the thin normativity of proceduralism does not mark the absence of all normativity; thinness is not neutrality, nor is it indeterminacy. On the contrary, proceduralism must be sufficiently thick, normatively, to generate answers to difficult questions about the good, the right, and the just. Yet it must be sufficiently thin to appeal to people who disagree about the *nature* of the good, the right, and the just. For that reason, no proceduralism can operate without introducing into itself at least a few substantive norms.

First of all, a commitment to proceduralism is not normatively neutral. Proceduralism is itself a norm that entails an obligation to recognize and abide by its outcomes. This is a significant obligation, normatively, because proceduralism does not generate normatively neutral outcomes. Any procedure that has "winners" and "losers" is hardly neutral in its results. So an obligation to recognize and abide by procedural results is an obligation to respect some norms that one may not share.

Furthermore, proceduralism entails various norms of fairness, including those regulating access to participation, conditions of participation, and sincerity of participant behavior. Norms of fairness give the individual who accepts such norms a good reason to trust the group or institution in which the procedure is embedded. A patient's *informed consent* is a matter of fairness, a matter of the patient's being able to participate in making some of the decisions affecting her case. Such fairness provides the patient with a reason to trust the medical or research professionals involved.

What about the interests of third parties, for example a patient's parents or spouse or children? How are such third-party interests to be balanced against the patient's interests? In many cases, one might expect them to be subordinated to the patient's interests. But maybe not in *all* cases—for example, with respect to infants in intensive care. How are *its* best interests balanced against those of its family? The infant cannot participate, of course, but the question still poses itself where a proxy defines and advocates for the child's best interests. The attending physicians might be such a proxy. Consider cases the physicians do not share the family's view of the child's best interests. Each side may regard the other as subordinating the patient's interests to its own but neither side will regard itself as doing so.

Proceduralism in such cases involves substituted judgment, "where another must represent" the "autonomy of the self" who cannot "choose and act independently" (Jennings, 1990, 217). Issues involving future children, such as those subjected to germline gene editing, require substituted judgment in lieu of the affected person's consent. Do the benefits enjoyed by the individuals, once born, weigh heavier than the risks to which the procedure exposed them? Not if germline gene editing "causes side-effects so severe as to make an individual's life not worth living" (Gyngell et al., 2017, 507). But the question of what make an individual's life *not* worth living is political: any given answer will depend on particular value commitments that compete with those held by others.[23]

IV. COMBINE TWO PROCEDURALISMS: EXPERT COMMITTEES AND DELIBERATIVE DEMOCRACY

To render political bioethics practical, I propose combining two types of proceduralism in mutually reinforcing ways: (a) the proceduralism of

"expert" committees or commissions and (b) the proceduralism of deliberative democracy that carefully and systematically renders *lay opinion* better informed and more thoughtful. Both types of procedure are well-known and much analyzed.[24] Both have been applied, separately, for some time now.[25] But neither have been applied, as I propose, in combination and toward a political bioethics.

Expert Committees or Commissions

I begin with bioethics committees.[26] They claim a special expertise in making normative decisions that endow their recommendations with normative authority.[27] But I would claim that public commissions cannot "operate on a plane above politics" (Powers, 2005, 320). To clarify this claim, I draw on Sheehan, Dunn, and Sahan (2017). They locate an expert committee's authority partly in the political community's stake in scientific research. According to these authors, it is this stake that justifies a procedural framework for research governance. They regard this stake as fundamentally democratic, situating "enquiry and research *within* the grasp of society, rather than removed, from it" (Sheehan et al., 2017, 712).

Yet they caution that a "specifically democratic location misses something important about the nature of enquiry," something that "transcends politics" (Sheehan et al., 2017, 712). They argue that "insofar as the committee members operate *within* this framework, there is no distinctive *ethical* expertise relevant to the justification or practice of ethics review that exists independently of this process" (Sheehan et al., 2017, 720). Thus "it is the *decision-making process* that is authoritative, not the committee." Indeed, "any committee member, or social researcher, who put themselves forward as an ethics expert in this context would be at great risk of undermining the legitimacy of a fair process model of research ethics governance" (2017, 20).

In fact, to say that proceduralism's authority comes in part from the institutional status of the committee itself, both as a process and in the appointment of its individual members, obscures the political element here: the presence of different persons in the committee, accompanied by their respective value commitments some of which may vary and compete with each other.

Expert bioethics committees are political along other dimensions as well: as a particular commitment to proceduralism as a means of public policy formation; in selecting criteria of membership appointment[28]; and in choices about who to invite to provide testimony. These criteria may themselves include political calculations, such as seeking a range of viewpoints.[29]

Deliberative Democracy

The proceduralism of expert committees needs to be supplemented with, and integrated into, another kind of proceduralism, one that generates

informed and reflected *non-expert* opinion: deliberative democracy. Why include lay opinion? To avoid what Alexis de Tocqueville (1981, 385) describes as the soft despotism that precludes popular control, namely the paternalism of expert tutelary powers. Tocqueville advocates participatory politics at various levels of government and beyond, in voluntary associations. Or to speak with Charles Taylor (1991, 10), who advocates popular rather than elite control of great social debates: "what we are in danger of losing is political control over our destiny, something we could exercise in common as citizens"—the "loss of political liberty" such that the "choices left would no longer be made by ourselves as citizens" but by some "tutelary power." This would "undermine the will to democratic control" despite "protest, free initiatives, and irreverent challenges to authority" (Taylor, 1991, 112).

Deliberative democracy chooses participants randomly rather than selecting for affinity. It allows participants to draw on balanced expert information toward vetting competing perspectives carefully. By consulting with "experts representing diverse viewpoints and deliberations with peers," participants "develop, examine and challenge their own views" while mutually influencing each other by reasoned argument that they themselves evaluate (Kim, 2016, 178). This procedure encourages discursive argument based on views informed by exposure to scientific fact—as well as exposure to a range of normative thinking.[30]

Like expert bioethics committees, the deliberative process begins with certain norms, norms that can always be placed into question. Earlier I examined several of these kinds of norms: risk/benefit analysis, to minimize patient harm, and informed consent, to provide decisional autonomy to the individual. The deliberative process also begins with another norm: a commitment to deliberation, on terms of mutual respect. That commitment reduces the range of possible relevant reasons to only those "that can be accepted by others" (Gutmann and Thompson, 1996, 101), or "on terms that all can accept" (Gutmann and Thompson, 1997, 41).

To be sure, reasons acceptable to other persons often may be difficult to identify where the reason in question is an artifact of "contested background assumptions" such as what constitutes the good life or how best to organize a just political community (Powers, 2005, 319). Furthermore, an approach based on giving and evaluating reasons makes definite demands on participants. It requires that they be able and willing to "change their minds based on giving reasons and evaluating" the reasons of others (Powers, 2005, 189).[31] It requires that they be able to "consider trade-offs that are necessary in public policy" rather than assuming that their role is only and always to protect and preserve their particular interests. And it requires participants to be "respectful of minority views" (Powers, 2005, 189).

Not all participants, whether in the minority or majority, will be able or willing to meet these requirements. Indeed, proceduralism will fail to speak to some members of society for various reasons. For example, someone who

would be guided politically by religious faith in revealed truth will reject normatively thin proceduralism. Another example: people who cannot subordinate their thick norms to thin ones will reject thin proceduralism because it confines, to thin norms alone, the bases on which public policy can be made. A third example: sources of conflict that are "inextricably interwoven with individual self-descriptions of persons and groups, and thus with their identities and life projects" (Habermas, 1993, 59), challenge the coexistence of competing worldviews and ways of life. They will not yield to normatively thin proceduralism. In such cases, proceduralism runs up against its own limits, and at such points, its fairness is compromised.

V. DEFENSE OF MAJORITARIAN PROCEDURALISM

I conclude with a defense of proceduralism as a *sufficient* condition for generating legitimate decisions in the face of profound and abiding disagreement among members of a society on any number issues of social significance (from general issues of legitimacy, fairness and justice to the particular bioethical issues that I focus on). What renders proceduralism sufficient? A combination of features: (a) fairness, (b) wise outcomes, (c) liberal justification, (d) majoritarianism, and (e) a practical willingness to undertake the problematic task of distinguishing acceptable forms of reasonable disagreement from unacceptable ones.

(a) *Fairness*. A deliberative procedure for bioethical questions can be fair to all members of society even as it accepts some points of view (some, but not all, reasonable ones) and rejects others (all unreasonable ones). Grounds that are unreasonable (because of ignorance, say, or stupidity, unfairness, or bad faith) are unacceptable and may be discounted without unfairness.[32] Because proceduralism so conceived distinguishes between reasonable and unreasonable grounds, it differs from other kinds, such as equally weighted votes with the majority trumping the minority. A fair procedure produces fair outcomes because the qualities that make a procedure fair convey to the outcomes. But an outcome is not legitimate *simply* because it is fair. A lottery or a coin-toss might be more robustly fair than majoritarian proceduralism (which favors the majority) because of its randomness, which favors no one. Even a majority of equally weighted votes might be fairer than my notion of proceduralism, which does not weight reasonable and unreasonable votes equally.

(b) *Wise outcomes*. A deliberative procedure for bioethical questions also seeks to generate "wise" outcomes: intelligent, informed input and deliberation, displaying keen discernment and deep understanding, for example by including a range of expert opinions. Proceduralism so conceived differs in this respect from fairness via randomness or equally weighted participants.

(c) *Reasonable disagreement and liberal justification*. Fairness and wise outcomes cannot require that only those procedural outcomes are legitimate that are beyond all reasonable disagreement. Such outcomes do not require that there be *no* such disagreement whatsoever. After all, likely no procedural outcome is beyond all reasonable disagreement. Still, procedural outcomes are not *necessarily* illegitimate given reasonable objections. Nor need the fact that members of any society do not all share views on important matters consensually defeat the goal of seeking wise outcomes. No normative standpoint is likely to be entirely uncontroversial; reasonable disagreement may arise with regard to any normative judgment (including the value of majoritarian proceduralism for adjudicating difficult bioethical issues). Still, anyone who believes that procedural legitimacy is possible at all must believe that there can be reasonable agreement on *at least one* basis of legitimacy. Such belief marks faith in liberal justification, that is, in justification that is liberal in the sense of respecting all participants and all viewpoints to the greatest possible extent. Such respect for individuals entails respect for a majoritarian deliberative procedure (whereby respect by dissenting groups depends in part on the extent of leeway allowed them). Procedural legitimacy entails in turn the legitimacy of the authority that constrains participants and other affected persons to accept the procedural outcomes. In the spirit of liberal justification, the project for procedurally generated legitimate decisions attempts to define the category of reasonable disagreement as narrowly as possible, toward including as many persons and viewpoints as possible.

(d) *Majoritarianism*. With regard to the terms *reasonable, wise* and *legitimate* as characteristics of proceduralism: there is no free-floating or independent standard by which to measure a procedure's "epistemic value" (Haddock et al., 2009). Just as people will disagree about the meaning of these terms, so they will disagree about the meaning of "reasonable." Not for this reason alone, no procedure is beyond reasonable objection. So while proceduralism must take all reasonable disagreement seriously, it must do so without automatically granting it veto power over procedural outcomes. The goal is a procedural outcome that is beyond reasonable disagreement for a majority of participants and other affected persons. A deliberative procedure for bioethical questions is majoritarian. Majoritarian proceduralism cannot end *all* reasonable disagreement about its outcomes; no method can do that for itself. So to make the goal of legitimate decision-making under conditions of severe and abiding disagreement possible, society must relax any requirement that any decision is freely embraced by *all* reasonable members. For any notion of legitimacy that made *any* reasonable objection fatal to procedural justification would undermine the very project of justification in general.

(e) *Distinguishing acceptable from unacceptable reasonable disagreement.* Majoritarian procedural outcomes can be legitimate even for some perfectly reasonable persons with perfectly reasonable disagreements: for an outcome to be legitimate, it need not be embraced as correct by *all* reasonable participants and other affected persons but only *some*. In such cases, justifiability is decoupled from reasonable acceptance by *all* persons. Still, fair procedural outcomes must bind *all* addressees, even those who believe that the procedure led to the wrong outcome (and even those who reject majoritarian proceduralism as such).[33] The question remains: How can a line be drawn between acceptable and unacceptable disagreement when both are reasonable? In fact, humans have no independent access to some truth that would allow them to determine the epistemic value of one reasonable disagreement vis-à-vis another. Neither correctness theories nor pure procedural democracy can balance the competing demands of legitimacy with a search for the common good.[34] So there can be no proper account of reasonableness in terms of which we can reassure ourselves that we are rejecting only those reasonable disagreements that are "properly rejectable." A common epistemological experience: a community or society cannot agree on what counts as the right answer even as different persons and groups are confident that their particular answer is right. Under the circumstances, the best a society can do is to combine the proceduralism of deliberative democracy with that of expert bioethics committees. That combination does not homogenize participants but, at best, increases the diversity and number of participants. Doing so should enhance participants' respect for and faith in the procedure and its outcomes—even given abiding, reasonable disagreement, including disagreement about an expert committee's putative moral expertise.

VI. CONCLUSIONS

Political bioethics is *less* plausible, the *more* it presupposes shared common values or insists on creating them as the only acceptable grounds for regulation and public policy.[35] By contrast, political bioethics *is* plausible by means of decisions that are acceptable to all participants and affected persons—if not necessarily to society as a whole—to the extent that those decisions are *procedurally* legitimate. And bioethical decisions are *political* if made on the basis of procedural legitimacy.[36]

In this way, political bioethics, sensitive to moral diversity within human groups, recognizes the lack of convergence among moral experts as inescapable and, in the sense in which I use the term, inherently political. *Inherently political* means that there is no particular method of moral reasoning that can eliminate all normative disagreements. Hence the need to stipulate that

many bioethical issues have a distinctly political quality. There is no external standpoint that would allow one to adjudicate—in a manner objective, neutral, or disinterested—among competing bioethical presuppositions or understandings. By itself, even reasoned debate all too often will fail to generate an answer equally acceptable to all participants and affected persons.[37]

To view bioethics as politics is to ask: Given disagreement in the public sphere about bioethical issues that require decision for regulation, legislation, or public policy, how should bioethical questions be decided? On what basis? In liberal democratic community, at least, such decisions should be considered a heightened form of opinion. *Heightened form* means: informed by expert opinion of committees as well as by input from the general populace that has benefitted from democratic deliberation. Basing political, legal, or regulatory answers on expert opinion may not always be easy. Basing them also on democratic opinion is surely very difficult and always full of risks.[38] Deliberative democracy requires experts to provide several different domains of highly specialized information to lay person in ways both comprehensive and understandable. Participants' "informed opinion formation, revision or refinement" requires an understanding of the "nature and purpose of scientific procedures in . . . research, the rationale and structure of the current human subject protections system," as well as the state of current research (Kim, 2016, 183). And the goal of extending participation to the general public to the greatest extent possible is itself fraught with dangers, such as reproducing popular prejudices or ill-informed viewpoints. For reasons both moral and political, not all issues should be available for democratic deliberation. Just as slavery is incompatible with a liberal democratic polity, so, too, would be the instrumental use of any individual for the purposes of another (such as organ procurement). In such a polity, neither should be open to referenda or other popular decisional methods.

So what difference does the adjective *political* make when conceptualizing bioethics? What practical difference would it make if a society were to adopt a viewpoint of political bioethics? It might make a practical difference. If bioethical questions cannot be resolved in a universally acceptable and compelling manner by rational argument, and if such questions can be regulated only on the basis of political decision-making, then the particular *kind* of politics practiced in any given society matters greatly. The kind of politics practiced will determine the kind of bioethical regulation, legislation, and public policy generated there.[39]

Attempts to meet that difficult and dangerous goal may never be more than modestly successful—if that. But a goal impossible to meet may still function in a regulative sense.[40] It may provide a society practical orientation as it continues to seek the best ways to frame and decide difficult bioethical issues. That orientation should be informed by a *democratic* spirit: to extend the discussion, and sometimes even aspects of the decision-making, to the

general public, to the extent possible,[41] at any given time—and hopefully to ever greater extents[42] over time.[43]

NOTES

1. A commitment to democracy is a particular value commitment, as is a commitment to social justice, as is a commitment to the scientific establishment of fact. None of these commitments are moral. Here I pursue political bioethics in a democratic register; elsewhere (Gregg, 2018a, 2018b) I pursue it with respect to social justice.

2. I use the terms *society* and *political community* interchangeably because my focus on societies is specifically and narrowly political. Community so understood does not imply homogeneity of population, consensually held belief, or identity along any dimension other than membership in the same polity.

3. To be sure, the term *politics* can be understood in many ways quite beyond my definition, which is narrow for analytic purposes. To develop a notion of political bioethics, I distinguish it (partially) from ethics. (a) Some political questions are not (deeply) ethical, for example, Is the nation state's power best divided among an executive, a legislature, and a judiciary? (b) Some ethical questions are not (necessarily) political, e.g., Is vivisection an ethically acceptable research method? (c) Some questions that are at once both ethical and political, for example, the Catholic Church regards abortion as immoral while the American Supreme Court case *Roe v. Wade* (410 U.S. 113 (1973)) frames abortion politically as a matter of a woman's right to privacy.

4. For example, the U.K. Human Fertilisation and Embryology Authority (2011) reported that 18.7% of women undergoing IVF produced only one embryo viable enough for elective single embryo transfer.

5. See, for example, Lanphier et al. (2015).

6. Human history has witnessed many different kinds of moral thinking. In many cases, from deontology to consequentialism, for example, moral thought claims to show that one answer is clearly preferable to another for nontrivial, nonidiosyncratic reasons. The strongest form of such claims is a claim to truth.

7. Broad agreement with regard to the legal regulation of biotechnological interventions into the human genome could be facilitated by a "political" and naturalistic understanding of both human nature and human rights, as an alternative to an essentializing moralized bioethics, as I show elsewhere (Gregg, 2021a).

8. The European Parliament. *Resolution on Cloning*, 1997 O.J. (C 115) 14.4/92 (1997 March 12), paragraph B, and clause 1, respectively.

9. Tensions are not limited to a scientific commitment to facts. Scientists differ among themselves with regard to their values quite beyond science, including political orientation and moral preference. Such differences can affect scientists' understanding and evaluation of scientifically generated data. See, for example, Segerstrale (2001) for an historical account of an on-going, politically inflected debate on whether "human nature" is fundamentally biological or fundamentally social (or simply does not exist).

10. See, for example, Taylor (2014).

11. European Treaty Series—no. 168. Additional Protocol to the Convention for the Protection of Human Rights and Dignity of the Human Being with Regard to the Application of Biology and Medicine, on the Prohibition of Cloning Human Beings of the Council of Europe, Paris, 12.I.1998.

12. I reject the human genome as somehow invested with a moral status and elsewhere (Gregg, 2021b) propose dignity as the decisional autonomy of future persons, held in trust by the current generation at the point of genetic engineering.

13. UN Educational, Scientific and Cultural Organization (UNESCO). 1997. *Universal Declaration on the Human Genome and Human Rights*.

14. The very concept of nature becomes an issue of political bioethics when employed as a normative standard for making decisions. As a standard, it may well be useless, as the following thought-experiment shows. If sexual reproduction were in fact not natural but somehow a human artifact, it would fail to satisfy today's regulatory bodies that monitor medical procedures, given the incidence of "sexually transmitted disease," the "high abnormality rate in the resulting children," and the "gross inefficiency in terms of the death and destruction of embryos (estimated to be one in three to one in five deaths per live birth)" (Harris, 2016, 8).

15. See Gregg (2003a).

16. I refer to agreement among members of a political community, either directly (by voting, for example) or indirectly (by being born into the community and freely remaining within it). Proceduralism can realize fair participation in the public sphere if constructed in ways normatively "neutral" in a sense I develop elsewhere (Gregg, 2002). As a general idea, proceduralism encompasses any sort of procedural device for making a decision or resolving a dispute. It takes many different forms. For example, as procedures to settle conflicts, Barry (1970, 85–91) distinguishes among combat, bargaining, discussion on merits, voting, chance, contest, and authoritative determination. In democratic polities, procedures can specify everything from the forms of participation and adjudication to the forms of implementation. Consider three prominent examples. Cohen (1994, 610) sees democracy as a "procedure that institutionalizes an idea of citizens as equals." For Rawls (1993, 159), the "only political consensus we can reasonably hope for is confined to democratic political procedures" such as the "right to vote and freedom of political speech and association, and whatever else is required for the electoral and legislative procedures of democracy." Habermas (1996, 296) claims that the "central element of the democratic process resides in the procedure of deliberative politics." Most liberal theories today are proceduralist in arguing for a state that provides a procedural framework dedicated to the substantive norm of democracy but that imposes few other values on citizens. Indeed this framework protects individuals from such impositions, allowing each person to go his or her own normative way as much as possible as long as he or she respects the outcomes of democratic decisions in the public sphere.

17. Majoritarianism is a particular political theory that rests on presuppositions all of which require defense (a task quite beyond the scope of this article). Some institutions require unanimous decisions instead (e.g., some decisions taken by the Council of Europe; and in the United States, juries in criminal cases are required to reach a unanimous verdict). In later pages, I advocate expert committees (which usually seek consensus) and in this way qualify my support of democratic majoritarianism, which should be carefully circumscribed in other ways as well. For example, legally guaranteed rights of minorities—especially rights protecting minorities from majorities, including majorities generated by voting—are norms governing the acceptability of procedural outcomes. Such norms include respecting all participants' legal equality and civil rights as well as protecting society's general welfare from majorities that would threaten it. A different issue (also beyond the scope of this essay) concerns which among different types of majority (such as simple, absolute, or effective) would be most appropriate for this or that bioethical question.

18. See Gregg (2003b).

19. I discuss what I mean by fairness below.

20. To be sure, some groups and individuals—paradigmatically: ones of orthodox forms of religious belief—may include even modern aspects of daily existence in a way of life does not neatly isolate the sacred from the profane.

21. I urge a particular understanding in view of the fact that different communities conceive of patient autonomy in different ways. To overgeneralize, it may be that Americans generally are more inclined than many Europeans to construct patient autonomy as embedded in the family. Such differences in viewpoint pose a challenge for my theory of thin proceduralism.

22. That locus might be interpreted one way in human medical research and another in life-sustaining treatment: medical risk appraisal is consequence-oriented and seeks to secure patients against health hazards; medical research is truth-oriented and seeks to establish empirical facts.

23. Tellingly, Gyngell et al. (2017, 507) do not identify their own value commitments. Thus the reader cannot know on what normative basis they conclude that the "existential benefits will outweigh the risks" as long as germline gene editing is "sensibly regulated so as to mitigate risks."

24. For example, Fishkin (1997), Bohman and Rehg (1997), and Gastil and Levine (2005).

25. See, for example, Goold et al. (2012) and Kim (2016).

26. Such committees take many different forms. For example, the Nuffield Council on Bioethics in the United Kingdom and the German Ethics Council are formal bodies dedicated to bioethical issues. The American Society for Reproductive Medicine seeks to advance science in general but with a focus on the practice of reproductive medicine in particular. The World Health Organization is a specialized agency of the United Nations that promotes public health internationally.

27. Compare Singer's (1972, 117) notion of such expertise as familiarity with moral concepts and arguments. Expertise so construed is based on adequate information and reflection upon that information, allowing one to "reach a soundly based conclusion more often than someone who is unfamiliar with moral concepts and moral arguments and has little time" to gather sufficient information and reflect on it.

28. One problem: ethics committees that regularly seek a consensus might pursue that goal by limiting membership; another problem: committees that fabricate consensus when actual consensus proves unreachable.

29. By contrast, Gutmann and Wagner assume what is impossible: some kind of "ideal speech situation" (Habermas, 1990) in which anything extraneous to the arguments being made is excluded from influencing the discussion, such as participants' sex or social status or ethnicity or rhetorical facility: "For us, deliberation paved a path of inclusive discussions where each commission member and all stakeholders could effectively bring individual expertise, experiences, and values to the table" (Gutmann and Wagner, 2017, S37).

30. Democratic deliberation is more than debate: it seeks actionable decisions; it does not avoid but rather seeks out a broad array of perspectives; it values rather than rejects dissent.

31. Not all communities are prepared to regard "reason" as a neutral platform for communication (e.g., some persons of religious faith). The ideal of a rational platform for debate is not, in fact, culturally neutral but presupposes commitments to European Enlightenment rationalism (exemplified in the ideal, if not always the actual practice, of natural science).

32. To be sure: stupidity, unfairness, or bad faith are hardly self-evident, or objective, or a-cultural, or transcendental criteria. They are criteria always embedded in one or the other understanding of "reason." The history of philosophy (among other disciplines) offers a very wide array of competing understandings. Reason as a culturally neutral and universally available platform is a conceit (one unusually promising but not entirely unproblematic) of the European Enlightenment.

33. Compare Honneth and Farrell (1998), who argue that proceduralism—unlike public opinion formation in the democratic public sphere—has the political power to make decisions universally binding within a political community. The questions they do not address: Just how much space should be left for dissenters willing to shoulder some sacrifice? Just how great a sacrifice may reasonably be expected of dissenters?

34. Compare Estlund (2008) with respect to his alternative: "epistemic proceduralism."

35. While proceduralism may increase the degree of agreement on a given bioethical issue, it will hardly discourage single-issue advocacy groups and other constellations of narrow, special interests that resist democratic deliberation.

36. Geuss (2008, 36) warns that the "beliefs that lie at the base of forms of legitimation are often as confused, potentially contradictory, incomplete, and pliable as anything else, and they can in principle be manipulated." While this warning is cogent, his scholarship generally underestimates the quality of belief possible through deliberative democracy informed by expert committees.

37. Proposals for the moral enhancement of the human species (e.g., Persson and Savulescu 2012) raise a question they cannot answer: Of the myriad moralities at any time in all the millennia of human civilizations, which morality should any given society choose and why that one in particular? "Moral enhancement" of any kind cannot but impose a particular worldview on people many or most of whom do not share it. And from any standpoint that rejects coercion, moral enhancement by coercion cannot itself be moral.

38. And a sufficient understanding of the complex science involved may not even be the most difficult aspect of generating informed public opinion on bioethical issues. According to Hurlbut (2015, 13), "informed deliberation on genetic engineering research and its applications need not depend on comprehensive public understanding of the science behind CRISPR/Cas9 gene editing."

39. My focus on domestic regulation does not detract from the fact that decision-making is always an urgent need internationally as well (and one that may call for forms of proceduralism beyond those I discuss here). For example, with respect to somatic and reproductive genome editing, Chan and Arellano (2016, 426) discuss the possibility of medical tourism and "rogue therapies" especially in countries with inadequate regulation and where unlicensed therapies are readily available. Market demand from patient groups confronting the unavailability of effective treatments may lead to clinical treatments before safety and efficacy criteria have been met.

40. The same may be said for the problem of distinguishing therapy from enhancement discussed in earlier pages.

41. *The extent possible* should anticipate what may not possible for some groups within the liberal democratic political community. In such cases, *the extent possible* should provide loopholes for at least some of those minorities to somehow retain their moral integrity even in the face of procedurally just majority decisions.

42. The phrase *to ever greater extents* may have a democratic meaning in a national context but probably not in international contexts, for three reasons among others. (a) While it may well be that

"all humans have a common interest in the human genome" (Baylis, 2017, 3), the ideal of "broad-based participation by people from around the world" in deliberations about how best to regulate gene editing (Baylis, 2016, 22) remains implausible today. (b) Experience with proceduralism at *local* levels may provide insights about proceduralism that can be deployed at *national* levels, and at *national* levels for proceduralism deployed at *international* levels. Whatever difficulties proceduralism poses locally, they will be more challenging as group-size increases. The democratic element may well drop out after the domestic level. (c) Urgent issues at an international level—from access to certain medicines, to regulation of transnational clinical trials, to intellectual property laws that disadvantage generic pharmaceuticals manufactured in developing countries—demand immediate attention (compare Jasanoff et al., 2015). Urgent responses are unlikely to be democratic in nature because democratic procedure tends to time-consuming, uncertain in result, and generally inefficient.

43. A next step in the project for a political bioethics would be designs that combine and deploy the two proceduralisms in specific venues under particular conditions for local questions. This effort might draw on projects such as that of MacGillivray and Livesey (2018).

REFERENCES

Baltimore, D., P. Berg, M. Botchan, D. Carroll, R. Altaa Charo, G. Church, J. Corn, *et al*. 2015. A prudent path forward for genomic engineering and germline gene modification. *Science* 348(6320):36–8.

Barry, B. 1970. *Political Argument*. London, United Kingdom: Routledge and Kegan Paul.

Bashford, A., and P. Levine. 2010. *Oxford Handbook of the History of Eugenics*. Oxford, United Kingdom: Oxford University Press.

Baylis, F. 2016. Broad societal consensus' on human germline editing. *Harvard Health Policy Review* 15(2):19–23.

Baylis, F. 2017. Human germline genome editing and broad societal consensus. *Nature Human Behaviour* 1(103):1–3.

Bohman, J. and W. Rehg, eds. 1997. *Deliberative Democracy: Essays on Reason and Politics*. Cambridge, MA: MIT Press.

Chan, S., and M. M. Arellano. 2016. Genome editing and international regulatory challenges: Lessons from Mexico. *Ethics, Medicine and Public Health* 2(3):426–34.

Childress, J. 2003. *Principles of Biomedical Ethics*: Reflections on a work in progress. In *The Story of Bioethics*, eds. J. Walter and E. Klein, 47–66. Washington, D.C.: Georgetown University Press.

Cohen, J. 1994. Pluralism and proceduralism. *Chicago-Kent Law Review* 69(3):589–618.

de Tocqueville, Alexis. 1981 [1835]. *De la démocratie en Amérique*, vol. 2. Paris, France: Garnier-Flammarion.

Estlund, D. 2008. *Democratic Authority*. Princeton, NJ: Princeton University Press.

Fishkin, J. 1997. *The Voice of the People: Public Opinion and Democracy*. New Haven, CT: Yale University Press.

Gastil, J., and P. Levine, eds. 2005. *The Deliberative Democracy Handbook: Strategies for Effective Civic Engagement in the 21st Century*. San Francisco, CA: Josey-Bass.

Geuss, R. 2008. *Philosophy and Real Politics*. Princeton, NJ: Princeton University Press.

Goold, S., M. Neblo, S. Kim, R. de Vries, G. Rowe, and P. Muhlberger. 2012. What is good quality public deliberation? *Hasting Center Report* 42(2):24–6.

Gregg, B. 2002. Proceduralism reconceived: Political conflict resolution under conditions of moral pluralism. *Theory and Society* 31(1):741–76.

———. 2003a. *Coping in Politics with Indeterminate Norms: A Theory of Enlightened Localism*. Albany: State University of New York Press.

———. 2003b. *Thick Norms, Thin Politics: Social Integration Across Communities of Belief*. Durham, NC: Duke University Press.

———. 2018a. How to read for current developments in human genetics relevant to justice. *Politics and the Life Sciences* 37(2):262–77.

———. 2018b. Human genetic engineering: Biotic justice in the Anthropocene? In *Encyclopedia of the Anthropocene*, eds. D. DellaSala and M. Goldstein, vol. 4, 351–359. Oxford, United Kingdom: Elsevier.

———. 2021a. Against essentialism in conceptions of human rights and human nature. *Human Rights Quarterly* 43(2):313–28.

———. 2021b. Regulating genetic engineering guided by human dignity, not genetic essentialism. *Politics and the Life Sciences*. Available: https://www.cambridge.org/core/journals/politics-and-the-life-sciences/article/regulating-genetic-engineering-guided-by-human-dignity-not-genetic-essentialism/77C8DBC41B5EBE84BE6B42735D72FF8B (accessed March 25, 2022).

Gutmann, A., and D. Thompson. 1996. *Democracy and Disagreement*. Cambridge, MA: Harvard University Press.

———. 1997. Deliberating about bioethics. *Hastings Center Report* 27(3):38–41.

Gutmann, A., and J. Wagner. 2017. Reflections on democratic deliberation in bioethics. *Goals and Practice of Public Bioethics: Reflections on National Bioethics Commissions, special report, Hastings Center Report* 47(Suppl 1):S35–8.

Gyngell, C., T. Douglas and J. Savulescu. 2017. The ethics of germline gene editing. *Journal of Applied Philosophy* 34(4):498–513.

Habermas, J. 1990. Discourse ethics: Notes on a program of philosophical justification. In *Moral Consciousness and Communicative Action*, ed. J. Habermas, 43–115. Cambridge, MA: MIT Press.

———. 1993. *Justification and Application*. Cambridge, MA: MIT Press.

———. 1996. *Between Facts and Norms. Contributions to a Discourse Theory of Law and Democracy*. Cambridge, MA: MIT Press.

Haddock, A., A. Millar, and D. Pritchard, eds. 2009. *Epistemic Value*. New York: Oxford University Press.

Harris, J. 2016. Germline modification and the burden of human existence. *Cambridge Quarterly of Healthcare Ethics* 25(1):6–18.

Honneth, A., and J. Farrell. 1998. Democracy as reflexive cooperation. *Political Theory* 26(6):763–83.

Hurlbut, J. B. 2015. Limits of responsibility: Genome editing, Asilomar, and the politics of deliberation. *Hastings Center Report* 45(5):11–4.

Jasanoff, S., J. B. Hurlbut, and K. Saha. 2015. CRISPR democracy: Gene editing and the need for inclusive deliberation. *Issues in Science and Technology* 32(1):37–49.

Jennings, B. 1990. Bioethics and democracy. *The Centennial Review* 34(2):207–25.

Juengst, E. 2009. What's taxonomy got to do with it? "Species integrity", human rights, and science policy. In *Human Enhancement*, ed. J. Savulescu and N. Bostrom, 43–58. Oxford, United Kingdom: Oxford University Press.

Kim, S. 2016. Theory and practice of democratic deliberation in bioethics research. In *Empirical bioethics: Theoretical and Practical Perspectives*, ed. J. Ives, M. Dunn, and A. Cribb, 177–94. Cambridge, MA: Cambridge University Press.

Lanphier, E., F. Urnov, S. Haecker, M. Werner, and J. Smolenski. 2015. Don't edit the human germ line. *Nature* 519(1):410–1.

MacGillivray, A., and H. Livesey. 2018. *Report to the Royal Society: Evaluation of genetic technologies public dialogue and opinion survey. Urban and Rural Sustainability Consulting*. London, United Kingdom: URSUS Consulting Ltd.

Persson, I., and J. Savulescu. 2012. *Unfit for the Future: The Need for Moral Enhancement*. Oxford, United Kingdom: Oxford University Press.

Powers, M. 2005. Bioethics as politics: The limits of moral expertise. *Kennedy Institute of Ethics Journal* 15(3):305–22.

Rawls, J. 1993. *Political Liberalism*. New York: Columbia University Press.

Savulescu, J., and G. Kahane. 2009. The moral obligation to create children with the best chance of the best life. *Bioethics* 23(5):274–90.

Segerstrale, U. 2001. *Defenders of the Truth: The Sociobiology Debate*. Oxford, United Kingdom: Oxford University Press.

Sheehan, M., M. Dunn, and K. Sahan. 2017. In defence of governance: Ethics review and social research. *Journal of Medical Ethics* 44(10):710–6.

Singer, P. 1972. Moral experts. *Analysis* 32(1):115–7.

Taylor, C. 1991. *The Ethics of Authenticity*. Cambridge, MA: Harvard University Press.

Taylor, M. 2014. Influences on a changed story and the new normal: Scientists' beliefs and public skepticism. In *Global Warming and Climate Change*, ed. M. Taylor, 133–46. Canberra, Australia: ANU Press.

United Kingdom Human Fertilisation and Embryology Authority. 2011. Fertility treatment in 2011: Trends and figures. *HFEA* [On-line]. Available: https://www.hfea.gov.uk/media/2079/hfea-fertility-trends-2011.pdf (accessed January 16, 2022).