Liberal Eugenics & Human Nature

Against Habermas

by Elizabeth Fenton

In the course of developing his arguments against making genetic enhancements to one's children, Habermas assumes that a clear line can be drawn between the natural and the manufactured. But given the current state of medical science, this is precisely what we can no longer take for granted.

The view now often dubbed "liberal eugenics" holds that people should be able to choose genetic enhancements for their offspring, should these become safely available. This view is opposed by what I will call the "human nature" objection to genetic technology. This objection holds that human nature, or "what it is to be human," is definable and *natural* (that is, has not been tampered or interfered with, by, say, human technology). The human nature objection also assumes that a clear line can be drawn between what is natural and what is unnatural, and that this line marks a moral difference: whatever is unnatural is wrong, or at least morally suspect, and whatever is natural is morally valuable, perhaps intrinsically valuable. From this assumption comes the claim that human nature is fixed, to the extent that it should not be improved upon.

Proponents of this objection, such as Jürgen Habermas, George Annas, and Francis Fukuyama, conclude that genetic technology is intrinsically wrong, since it threatens something intrinsically valuable. Human nature thus requires protection. Annas urges the establishment of a "human species protection" treaty, calling such technologies "crimes against humanity."[1] Habermas states his support for a "right to a genetic inheritance immune from artificial intervention"—a right that has also been requested by the

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Parliamentary Assembly of the European Council.[2] Francis Fukuyama argues for the establishment of a new regulatory agency with "a mandate to regulate biotechnology on grounds broader than efficacy and safety" and with "statutory authority over all research and development."[3]

But human nature is not vulnerable to such threats. While "slippery slope" arguments against liberal eugenics are powerful and important, attempts to couch such arguments in terms of the protection of an intrinsically valuable human nature are misguided. Habermas and Annas, in particular, are guilty of begging the question that science forces us to ask, namely, whether there are aspects of being human that are or that *ought* to be unchangeable. Both assume that there are such essential aspects and rebuke science for attempting to change what ought not to be changed. But to answer the challenge from science, it is necessary to bracket this assumption, for whether there are such aspects is precisely the question at issue.

This paper takes up Habermas's efforts to develop the human nature objection to liberal eugenics. I critique four arguments deployed by Habermas: (1) that, as a threat to human dignity, liberal eugenics is a threat to the foundations of the human moral community; (2) that liberal eugenics will fundamentally alter relationships in the moral community, since with it reproduction will change from a natural process of creation to an artificial process of manufacture; (3) that manufacture will undermine moral equality, and thereby human rights; and (4) that liberal eugenics will undermine individual freedom and autonomy. In showing that there are significant problems with Habermas's position on liberal eugenics, which is perhaps the most complex and detailed of those mentioned here, I hope to show that the human nature objection to liberal eugenics more broadly is weakened by these problems.

What Liberal Eugenics Is and Is Not

Unlike the authoritarian eugenics programs envisioned in the early twentieth century, a *liberal* eugenics would not lead to genetic alterations being imposed on whole populations by way of state policies. The focus of liberal eugenics is the individual, not the nation, race, or class, and it gives primacy to the individual's own values and conception of what constitutes a good life, not the values of the state. The role of the state in a program of liberal eugenics is merely to facilitate rather than to impose eugenic choices, enabling parents' particular conceptions of the good life to "guide them in their selection of enhancements for their children."[4]

One charge often made of liberal eugenics is that it aims at *posthumanity*, at the creation of entities "whose basic capacities so radically exceed those of unaugmented humans as to be best thought of as constituting a new kind of being."[5] But as Nicholas Agar argues, liberal eugenics need not aim so high (or so low). Liberal eugenics is eugenic to the extent that it advocates parental freedom to choose some characteristics of offspring based on the parents' values but limited by the possibility of harm to the resulting children.

But while this may be modest in comparison to the goals of the posthumanists, it is still a radical addition to the "standard" process of human reproduction, and as such is quite rightly the subject of moral scrutiny and debate.

Human Nature under Threat

The arguments against liberal eugenics given by George Annas, Jürgen Habermas, and Francis Fukuyama differ significantly in their details, but they have in common the claim that liberal eugenics and other radical genetic technologies such as cloning constitute a *threat* to humankind. More particularly, it is a threat to something *sacred* in humankind, something we prize (or ought to prize) beyond and before any of the benefits that science and technology purport to promise. As Fukuyama argues, regulations must be imposed on science in order to discriminate between developments that "further human flourishing," and those that "pose a threat to human dignity and well-being."[6] In other words, some developments are good, in a moral sense, and others are bad or wrong, and therefore ought not to be done. Science itself cannot determine which developments fall into these camps since, the argument goes, it deals in facts rather than values. Annas also calls for regulation of "the techniques that could lead us to commit *species suicide*."[7]

In each case of calling for increased regulation, however, who and what is being protected must be clear—there must be a reason for and goal of the regulation. Here the three authors converge on the single idea that, in the case of genetic technology, humans must be protected from technology that could ultimately destroy them. This is not destruction in the sense in which nuclear weapons destroy whole cities and populations (by killing them), but rather a more esoteric notion of destruction. These authors are concerned that genetic technologies, such as liberal eugenics and cloning, will destroy what it is to be human as we know it. As Fukuyama puts it, we might bring about "the end of the human species *as such*."[8] More dramatically, Annas calls the use of such technologies a new form of "crimes against humanity," arguing that they threaten human nature, and thereby human dignity and human rights.[9]

Like Annas and Fukuyama, Habermas argues in favor of the regulation of genetic technology. He argues that we must uphold the "right to a genetic inheritance immune from artificial intervention."[10] But Habermas presents a complex and subtle argument in favor of regulation because he explicates a precise notion of what it is that the regulation seeks to pro-

tect. What concerns Habermas most is not human nature and human dignity *simpliciter*, but rather two particular aspects of being human: individual freedom, and membership in a moral community.

Habermas recognizes that resistance to regulating science often stems from the view that science can actually promote individual freedom and autonomy by providing people with the means to live longer, perhaps healthier, lives. Against this backdrop, the claim that human nature ought not to be tampered with is seen as "the vain attempt to set oneself against the dominant tendency to freedom of modern society."[11] If science gives us greater freedom and autonomy, then arguments in favor of limits look like "a rather dubious sanctification" of human nature. Habermas is concerned not to sanctify or idolize human nature, but rather to examine what that nature is and find within it something that is inconsistent with the liberal eugenics program as a whole. Like Annas and Fukuyama, Habermas sees a threat in genetic technology—a threat to something fundamental, perhaps even the threat of "the end of the human species as such." But he is concerned to explicate this threat not merely in terms of fear of possible consequences, but rather in terms of the fact that the whole project of developing this technology is somehow internally inconsistent. Habermas argues that to develop the technology we must be able to see ourselves as "the authors of our own life histories," as autonomous beings, but that the technology being developed undermines this very feature of our humanity.

Habermas's conclusion is that we should "moralize human nature." His goal is not to protect human nature from a vague and nebulous threat, but to achieve active self-reflection as a species: once the species reflects on what makes it possible to live as we do now—the freedom and autonomy to develop our own life histories—it will understand that radical genetic technologies are inconsistent with this basic aspect of being human, and it will therefore reject them. Moralizing human nature is not a function of listing what ought and ought not to be done to humans and protecting them from the latter; rather, it is a form of self-understanding—human nature is a way of being, and when that way of being gives rise to technology that threatens it, there is a fundamental problem that calls for legal means of protection. These means do not embody mere "vague antimodernistic opposition" or fear, but rather the results of "*modernity having become reflective*." Moralizing human nature thus seeks to protect, not human nature as such, but "the *conditions* under which the practical self-understanding of modernity may be *preserved*."[12]

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Ethical Self-Understanding of the Human Species

There are two main strands to Habermas's argument against liberal eugenics. First, he argues that a proper understanding of human dignity will show that humans come to share in it when they become members of a moral community—of a community of agents who accept and apply intersubjectively agreed-to rules of living together. As a threat to human dignity, liberal eugenics is a threat to the foundations of the moral community. The second strand to the argument is the claim that genetic technologies used in the way envisioned in a liberal eugenics would fundamentally alter the relationships of the moral community, since through them reproduction changes from a natural process of creation to an unnatural, artificial process of manufacture. Offspring are thus related to their parents as products to producers, and so are never able to enter into a relationship of moral equality with them. Since recognition of moral equality is the backbone of the moral community and human rights, any process that prevents this recognition will undermine the foundations of the moral community.

A third central point is implicit in these two strands. Habermas argues that liberal eugenics undermines the freedom and autonomy that each individual ought to have to be the author of his or her own life. When parents interfere with the genome of their offspring-to-be, they brand that child with an identity or a developmental trajectory that the child can never escape or alter. Because genetic alterations are for life, a child whose genome is to some extent the result of parental selection and preference will never fully be capable of achieving authorship of his or her own life. Habermas's argument, then, is a full development of the claim that genetic technology is a threat to something sacred in humanity—not merely a threat to an amorphous notion of

human dignity, but a threat to the whole form of life that that notion encompasses, namely, the form of life based on morality and individual freedom.

This argument is seductive in its complexity and detail, but it shares the basic form of the human nature objection. While explicitly not sanctifying or idolizing human nature, Habermas nonetheless attempts to establish that human nature is intrinsically valuable and therefore ought not to be tampered with. Even when the relevant aspects of human nature are examined in great detail, the conclusion remains: the moral status of human nature as something inviolable is under threat and must be protected.

Human dignity and the moral community. Habermas's argument has the two central strands. First, he argues that dignity is not a property that humans possess, but a state into which they enter on becoming members of a moral community that involves addressing "intersubjectively accepted rules and orders *to one another*."[13] Habermas connects human dignity with the notion of inviolability, but not in the traditional way. Traditionally, dignity is something that all humans possess simply in virtue of being human, and the last human on earth, completely alone, would possess an inviolable dignity despite his inability to share his humanness with another human. But for Habermas the social context is critical to our understanding of what dignity and inviolability mean. They are features of humanity that attain significance only when an individual is involved in "interpersonal relations of mutual respect, in the egalitarian dealings among persons."[14]

The significance of this analysis is that it enables the threat posed by genetic technology to be understood more concretely and coherently. If genetic technology threatens human dignity, Habermas argues, then what it really threatens is the foundation of the moral community in which individuals' relationships to each other are governed by intersubjectively accepted rules. If genetic technologies create individuals who, because of the manner of their creation, are unable ever to attain a position of moral equality with others in the community, then the use of these technologies undermines the foundations of the moral community, and this community is the proper location of and outlet for human nature.

On this view, human dignity is not possessed by embryos, since they are incapable of the ethical self-reflection, the recognition of others in the moral community as equals, and the recognition of oneself as free that defines the state of human dignity. One advantage of this view, as highlighted by Paul Lauritzen, is that it disconnects the debate about the moral rightness or wrongness of genetic technology from that about the moral status of embryos and links it instead to the debate about human nature, about what it means to be human.[15] Habermas argues that regardless of the moral status of embryos, genetic engineering is wrong because it offends against human nature; it is inconsistent with the state of human dignity to consider other human beings (at any stage of development) as instruments to be used or manipulated by others.

Manufacture versus creation. Second, Habermas argues that our self-understanding as species members is also constituted by an understanding of the difference between what is made or manufactured and what comes to be by nature—that is, the difference between the artificial and the natural. He argues that our interactions with the natural environment are governed by an understanding of the different claims of subjectivity and mere objects; the latter are open to forms of manipulation that are unacceptable for the former. This is a form of empathy, of one subject recognizing another. He argues that the distinction between what is natural and artificial, between subject and object, is therefore self-evident to humans as subjects, and he seems to conclude that it is thereby part of human nature. But genetic technologies threaten this distinction because they enable manipulation of one subject by another and thereby blur the line between what is grown (the natural) and what is made (the artificial). Genetic technology intervenes in a natural process of growth and is therefore fundamentally different from the manipulation of passive material. When one subject confronts and alters another, it creates a dramatic imbalance of power. Humans are no longer just masters of technology, but masters of technology *and of one another*.

There are two significant problems, Habermas claims, which arise out of this dramatic imbalance of power. First, it creates a community in which individuals do not recognize one another as moral equals, which undermines the moral community and the human rights that are predicated on this equality. Second, it severely limits the freedom of the individuals subjected to it. While liberal eugenics claims to be an extension of the liberal ideal of individual freedom and autonomy, Habermas argues that in fact the use of the technology is contrary to it. The locus of freedom that concerns advocates of liberal eugenics is the parent, the reproducer, when the proper locus of freedom to consider is the child, the offspring of the process, for it is there that the more significant curtailment of freedom will occur. Children who are the "products" of genetic enhancement are unable, later in life, to take "a revisionist stand" toward the expectations, demands, or developmental goals of their parents. Those goals have been built right into that child as part of the manufacturing process; they "have the peculiar status of a one-sided and unchallengeable expectation."[16] A child whose characteristics are the result of chance rather than choice is, even granting the possibility of overbearing parents, free eventually to reject the parents' preferences. That freedom is missing if those preferences are hardwired into

the child's genome, if the child is *manufactured* rather than created by nature.

This curtailment of a child's freedom is what ultimately prevents parent and child from ever recognizing one another as moral equals, for no child that is manufactured in this way can ever confront its parents as a moral equal. The imbalance of power in the relationship is transformed into an asymmetry in the moral community.

"Natural Trajectory"

One significant problem with Habermas's argument, and with the human nature objection more generally, concerns the tendency to view human nature as something definable and fixed. While Paul Lauritzen seems right to want to move the debate over genetic technology beyond the debate over the moral status of embryos, his characterization of the new focus of the debate seems mistaken. In response to Gilbert Meilander's claim that what it means to have a (human) life is to follow a "natural pattern," a "natural trajectory," or develop a "natural history," Lauritzen claims that the question raised by technology that could change a life's "natural" path is "whether or not such a change should be resisted."[17] But this question, important as it is, mistakenly accepts Meilander's assumption that it is possible to define categorically what it is to have a human life. The development of genetic technologies that radically alter what we may consider fundamental characteristics of a human life challenges this assumption. This technology forces us to consider the possibility that "what it is to be human" is not something fixed or stable, but rather something changeable. In entering this debate we cannot take human nature as already defined, for whether it can be so defined is precisely the question.

On examining the possibilities science is offering, it seems that we cannot be certain that human life as it is currently lived simply is the way it ought to be. To deny that there is a fixed human nature is not simultaneously to deny the existence of "natural human capacities" that are the conditions of important features of humanity. For even if it is granted that there are certain natural features of humans that are found universally, it does not follow that these capacities are fixed, nor that they exhaust the inventory of "truly human" characteristics, nor that they cannot be improved upon, nor that they should be elevated to a moral status that entitles them to protection.

Even if it is granted that there are certain natural features of humans that are found universally, it does not follow that these capacities are fixed, nor that they exhaust the inventory of "truly human" characteristics, nor that they cannot be improved upon, nor that they should be elevated to a moral status that entitles them to protection.

A second criticism concerns Habermas's analysis of human dignity. What Habermas calls the "ethical self-understanding of the human species" that is essential to human dignity is simply the ethical or moral side of human nature, which he claims we cannot escape: "The perceived, and dreaded, advances of genetic engineering affect the very concept we have of ourselves as cultural members of the species of 'humanity'—to which there seems to be no alternative."[18] Even if we agree with Habermas that human dignity is best understood in terms of a state associated with membership in the intersubjective moral community, we can deny that there is a moral dimension to any definition of what it is to be human that follows from this view. The ethical self-understanding of the human species will always be a function of how the human species is constituted and how it operates at any particular time. We should not seek to protect our current self-understanding as a species as if it is somehow privileged. We should not assume that there is no alternative to the current concept of what it is to be human.

Third, Habermas's concern that liberal eugenics fundamentally alters the nature of human relationships is overblown. As Habermas sees it, the children that result from the use of such genetic technology will see their parents as designers and producers with undue control over their avenues of possible development, preventing them from relating to their parents as moral equals. But the parent-child relationship is inherently one of inequality; even without explicitly choosing a child's characteristics or traits, a parent has considerable control over the development of that child and the range of options open to her for future development. Moreover, such inequalities or asymmetries in relationships abound within the human moral community. It is precisely the point of human rights doc-

trine that the notion of human dignity embodied in human rights transcends these asymmetries even though the asymmetries are never eliminated.

Furthermore, if clones and other genetically modified humans were still to possess the subjectivity required to negate the status quo—a minimal subjectivity neither cloning nor genetic modification threatens to remove—then there is no reason why they could not address their creators as moral equals. Habermas's claim that genetic engineering creates a new asymmetrical relationship is too weak to support the claim that the manufacturing element of genetic engineering violates human dignity or human nature. Since such unequal relationships already exist, and since humans have found ways to overcome them—by defining universal human rights, for example—the manufacturing element cannot be denounced solely because it can help create this form of relationship.[19]

Line-Drawing

Underlying the manufacturing argument against genetic technology is the notion of a continuum between what is natural and what is artificial. The difficulty of securing this distinction is a fourth problem for Habermas. If everything that humans do is by definition artificial, then not only will genetic engineering be unnatural, but so too will housebuilding, childrearing, buying, selling, cooking, and a host of other arguably natural activities. Of course, a distinction needs to be made between, say, becoming pregnant and giving birth without the aid of any technology and, at the other end of the spectrum, creating the genome of a child-to-be by splicing selected genes together, but drawing a sharp line on this spectrum is impossible. Advocates of the human nature objection to genetic technology are concerned to draw a sharp line, and they draw that line at liberal eugenics and human cloning—what lies beyond this line is an immoral intrusion on natural processes.

But what is really at issue here is not where the line is drawn between what is natural and what is artificial, for the line will always be blurred. What matters are the moral implications that are drawn from this distinction. The implication drawn in the arguments against liberal eugenics is that what is manufactured is morally inferior to what is natural, that natural processes in certain areas of human life ought to be protected from the encroachments of unnatural human science. But there is nothing intrinsic to the natural/unnatural distinction to warrant this claim. The natural is not intrinsically good, the unnatural not intrinsically bad—the very fact of a continuum between these extremes illustrates this. No matter where the line is drawn between the natural and the manufactured, the moral rightness or wrongness of an activity will have to be grounded in something other than where it falls on this spectrum.

A fifth criticism of the argument for protecting an intrinsically valuable human nature is that a contradiction lies at the heart of Habermas's claim that genetic engineering inhibits the autonomy and freedom of the children born from such technology. Kurt Bayertz has argued persuasively that the concept of human nature that gave rise to the notions of individual autonomy and freedom is very different from the fixed, stable human nature that the argument against liberal eugenics seeks to protect.[20] Bayertz argues that the liberal notion of individual freedom arose from a view of external (nonhuman) nature as factual—that is, as nonintrinsically valuable, implying no moral claims about its status, and human nature as "open and normatively noncommittal."[21] Individual freedom, then, is rooted in the notion that neither nature in general, nor human nature in particular, is intrinsically valuable—that is, that neither carries, prima facie, moral commitments. Human nature, on this view, does not demand protection simply in virtue of what it is. If we revert to a view of human nature as closed and fixed, and as protected by strong normative status, then the consequence would be "drastic restrictions to the human being's scope of behavior in *every* area of activity," contrary to Habermas's desire for the protection of individual freedoms. The real threat, then, is the threat to freedom posed by the desire to moralize the status of human nature and demand its protection. To do so may be to stifle the creativity of the autonomous agent; this is precisely what Habermas is concerned will occur should liberal eugenics be permitted.

A final criticism concerns the argument, arising out of the human nature objection, in favor of regulating genetic technology, whether via a "human species protection treaty," a new human right, or a regulatory agency with statutory powers. Each of these forms of regulation is proposed both as necessary for the survival of the human species and as subject to approval via a democratic process. Annas emphasizes the point that since the use of genetic technology affects the species as a whole, the species as a whole ought to decide how and when it is acceptable to use it: "no individual scientist (or corporation or country) has the social or moral warrant to endanger humanity, including altering humans in ways that might endanger the species."[22] The moral warrant can come only via the democratic process, "a worldwide discussion and debate, followed by a vote in an institution representative of the world's population." Similarly, Fukuyama argues that only the political, not the scientific, community is authorized "to control the pace and scope of technological development . . . the political community must decide which ends to pursue."[23]

The problem with this argument is clear: Annas and Fukuyama are both explicit in their claim that genetic engineering is intrinsically wrong, and yet they claim that the real decision about whether it ought

to be engaged in must be determined by democratic vote. But if an activity is intrinsically wrong, then no democratic process will make it otherwise, so why do Annas and Fukuyama claim that the species itself must be left to decide when they believe that the decision to ban the technology is inescapable? Part of the answer to this question comes from misplaced confidence: these authors assume that the species as a whole will recognize the intrinsic wrongness of genetic engineering and vote appropriately. But the contradiction here is blatant, freely expressed by Annas: "My own view is that the boundary line that really matters is set by the species itself, and that species-endangering activities should be outlawed."[24] But what if the species as a whole votes to make full use of genetic technology? What if the "right to a genetic inheritance immune from artificial interference" is rejected in favor of a "right to enhance one's genome"?

The confidence displayed by these authors in the attitudes of the voting public is misguided, particularly in light of the view that moral common sense may consider human nature "valuable, but in no way . . . sacrosanct and inviolable."[25] Even if, as Habermas argues, genetic engineering is inconsistent with our current form of life as autonomous agents, authors of our own lives, this inconsistency does not prove that a ban on all such technology will be universally agreed to, particularly if that technology promises attractive outcomes, such as improved resistance to disease or greater memory power. The fact that all three authors are compelled to gesture toward the role of the voting public in determining whether such technology should be used illustrates the weakness of the claim that genetic engineering is intrinsically wrong or contrary to nature.

Freedom to Evolve

The human nature objection to liberal eugenics and the arguments in favor of significant regulation of the use of genetic engineering technology attempt to put flesh on the bones of the claim that the use of such technology is intrinsically wrong. The central thesis of the objection is that genetic engineering threatens something intrinsically valuable—human nature—and since a fixed, stable human nature is essential to the notion of human dignity and its legal counterpart—human rights—this threat extends to the whole meaning of what it is to be human. Habermas's argument against liberal eugenics is the most rigorous of the three discussed here, claiming that genetic engineering is inconsistent with the form of life that gives rise to it, a form of life that centers on individual freedom and the role of the human moral community. But the principal objection to Habermas's argument is the same as the objection to its less abstract cousins, namely, that it assumes that human nature, or the form of human life, is fixed, and that a normative claim about the status of that nature follows. As I have argued, genetic engineering challenges but does not violate the notion of a fixed human nature. Advances in genetic technology make possible different conditions for "what it means to be human"; science is revealing that human nature is not fixed and singular. Moreover, the arguments against liberal eugenics assume that a coherent distinction is possible between what is natural and what is manufactured, and that the distinction reflects a moral difference. But this distinction cannot coherently be made: the difference between what is natural and what is unnatural is one of gradation; it is a continuum marked at each end by extremes. Where one decides to draw the line cannot then reflect any intrinsic difference, and therefore cannot reflect an intrinsic moral difference between what is natural and what is manufactured. The attempt to reject liberal eugenics on the ground that its unnaturalness renders it morally unacceptable fails.

Individual freedom is rooted in the notion that neither nature in general, nor human nature in particular, is intrinsically valuable—that neither carries, prima facie, moral commitments. Human nature does not demand protection simply by virtue of what it is.

A further objection, elaborated by Habermas, that the manufacturing element of liberal eugenics fundamentally alters relationships in the moral community, also fails. Not only is it unclear that liberal eugenics is a case of manufacture, but it is also unclear that the resulting moral inequality between parents and children that concerns Habermas is anything new, or that it will rock the foundations of the moral community. The argument that the manufacturing process will curtail essential freedom is also vulnerable to the claim that liberal eugenics may not represent a case of manufacture, and as Bayertz points out, it is inconsistent with the view of human nature as fixed and unalterable.

The failure of the human nature objection is not intended as evidence in favor of liberal eugenics; it merely

highlights the fact that, if liberal eugenics is morally wrong, it will be wrong on grounds other than its supposed unnaturalness. Human nature is not fixed, and it does not have strong normative status. As genetic technology progresses, so too does humanity—it changes, the species evolves, the conditions for "what it is to be human" alter. This is not to deny that at any particular time humanity will be distinguished from its environment on account of shared characteristics, nor is it to deny that some of those characteristics are uniquely human or morally significant. But it is to deny that any strong normative claims follow from the presence or absence of those characteristics—that they ought to be protected or granted intrinsic value. For whatever they are, they are open to change and improvement; to deny this is to deny humanity its most cherished freedom—the freedom to evolve.

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4. N. Agar, *Liberal Eugenics* (Oxford, U.K.: Blackwell, 2004), 5.

5. Ibid., 16.

6. Fukuyama, "How to Regulate Science," 4.

7. Annas, *American Bioethics*, 56; emphasis added.

8. Fukuyama, "How to Regulate Science," 4; emphasis added.

9. Annas, *American Bioethics*, 37.

10. Habermas, *The Future of Human Nature*, 27.

11. Ibid., 25.

12. Ibid., 26.

13. Ibid., 33.

14. Ibid., 33.

15. Paul Lauritzen, "Stem Cells, Biotechnology, and Human Rights: Implications for a Posthuman Nature," *Hastings Center Report* 35, no. 2 (2005): 25-33.

16. Habermas, *The Future of Human Nature*, 51.

17. Lauritzen, "Stem Cells," 27.

18. Habermas, *The Future of Human Nature*, 40.

19. It is important to note that human rights are not being wrongfully invoked in this criticism. For while human rights are often assumed to flow from the notion of a fixed and stable human nature, they do not do so necessarily; and, more importantly, their foundation in universally shared human characteristics does not imply that those characteristics have a strong normative status. Asymmetries and inequalities in human relationships can be overcome by human rights without those rights being viewed as a reflection of the moral status of a fixed human nature. What it is to be human may be alterable or malleable, or even indefinable, but the implication that follows is not that human rights are impossible, or impossibly weak, but rather that their content and range will also not be fixed.

20. K. Bayertz, "Human Nature: How Normative Might It Be?" *Journal of Medicine and Philosophy* 28, no. 2 (2003): 131-50.

21. Ibid., 146.

22. Annas, *American Bioethics*, 40.

23. Fukuyama, "How to Regulate Science," 7.

24. Annas, *American Bioethics*, 40.

25. Bayertz, "Human Nature," 144.