Protecting Humanity

Habermas and His Critics on the Ethics of Emerging Biotechnologies

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In this article, I present what I believe to be the core of Jürgen Habermas's views on the morality, ethics, and regulation of emerging genetic and reproductive technologies in his book *The Future of Human Nature*.[1] I start by describing the technologies Habermas considers in his book and the main objections to them in bioethical discussion. In the focal section of the article, I present my interpretation of Habermas's view on humanity, his idea of the "ethical self-understanding of the species," and his justification for taking a critical view toward genetic and reproductive advances. I then outline, for comparative purposes, some objections launched at these ideas and conclude with a summary of some arguments that do and do not merit further study in any future Habermasian bioethics. My reconstruction does not link Habermas's views on new biotechnologies with his earlier philosophy but remains contained within his assessment of these matters in *The Future of Human Nature*.[2]

Emerging Biotechnologies and Their Ethical Questions

The practices that Habermas refers to in his work are related to reproductive selection, genetic interventions, and cloning.

Prenatal testing and reproductive selection against undesired traits in prospective offspring is routine in wealthier countries all over the world.[3] The screened traits include hereditary diseases, perceived disabilities, gender (usually female), and phenotypical features (a consideration in gamete donations) such as unsuitable eye color, complexion, and height. Selection for desired traits is also frequent and in many cases distinguishable from the former only by the intentions of medical professionals and commissioning parents, who in this case may more actively seek extraordinary health and ability, or other pleasing or profitable features and skills, in their children. The most prominent ethical question in health and ability selection is its discriminatory effect on human beings with perceived disabilities. People with certain hereditary conditions or predispositions are not allowed to be born, which in itself can be seen as a form of unfairness. And the attitudes bred or fueled by selection can have a negative impact on societal responses to people living with the shunned conditions. Similar observations can be extended to gender choices, except that in this case perceived inferiority rather than disability is the basis for unequal treatment. The preference for other traits is often (mis)informed by unwarranted genetic determinism (the

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children of Nobel laureates are not necessarily geniuses), and in the case of intended intelligence, musicality, and the like, the greatest problems are probably created by parental overzeal and expectations. More difficulties crop up if the trait in question can be linked with loaded ethnic or cultural divides, as is the case at least with skin color.

Gene interventions for humans are still at their experimental stages. A few somatic cell gene therapies have been used in treatments and allowed to be marketed, but questions of safety as well as research and licensing governance abound.[4] Germ-line gene therapies or enhancements (that is, therapies and enhancements that will alter traits also in the treated person's progeny) have not been intentionally tried, but it is possible, and alarming, that the effects of somatic cell treatments (meant to cure only the individual tended to) can apparently travel into reproductive regions, and hence come to have heritable consequences.[5] The good effects would become permanent in a family line, but an accident or a clinician's mistake could also produce a new hereditary disease.[6] Other issues in human genetic interventions include that they are expensive, have harmful side effects (notably cancer), can be conducive to inequality (only the wealthy can afford them), and incur unknown risks to nonconsenting future individuals.

Cloning by nuclear transfer, the method by which Dolly the sheep was produced in 1996,[7] enables both reproductive cloning (making children who share most of their genome with one biological parent) and therapeutic cloning (creating embryonic stem cell lines for research and treatments).[8] These raise, at least currently, many questions concerning their safety to the individuals subjected to them, but also other kinds of moral objections. Cloning has attracted epithets like "disgusting," "monstrous," "against humanity," and "against human dignity"; while the derivation of embryonic stem cell lines has been criticized for its instrumental treatment of women and unborn human beings.[9]

Habermas on Humanity and Biotechnology

Habermas surveys in *The Future of Human Nature* several types of moral and ethical considerations and aims to present an original justification for his critical views on new biotechnologies.[10] I believe that the hard core of his overall contribution is his notion of humanity that does not allow drastic changes in the human constitution.[11]

Our Ethical Self-Understanding and Moral Freedom

Habermas thinks that we understand ourselves (and others) as equally dignified human beings.[12] This is the moral foundation of our lives, and the basis of our liberal democracies.[13] Equal dignity, in its turn, requires that we can take part in all human decisions that have a marked impact on our lives and fates.[14]

By "we" and the "ethical foundation of our lives" Habermas must refer to members of modern societies and citizens of enlightened nations, and to their historically and socially developed theological and philosophical self-understanding as moral and political beings. His own phrase is "the ethical self-understanding of the species," but judging by the arguments used in his work this is a misnomer. The presentation takes for granted ideas on modernity and the existential plight of humanity that would be alien to many non-European and alternative European cultures. Habermas justifies his choice of words by evoking the concept of the "axial

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age."[15] This notion was introduced in 1949 by Karl Jaspers, who claimed, controversially, that the spiritual foundation of all humanity was laid in a religious convergence of the most advanced civilizations during 800–200 BCE.[16]

Habermas also thinks that we understand ourselves (and others) as free, autonomous beings of dignity.[17] Being free and autonomous means, for him, two separate things. First, people should be free to make their own life choices and participate in political decisions that affect their lives. But second, human freedom is also always linked with "something which, by its very nature, is not at our disposal," or at the disposal of other people.[18] Our autonomy means, among other things, that important parts of us are not human-made but naturally grown. And respect for our dignity requires that our grown (or inner worth) as well as our made (or choice) aspects are taken into account in discussions leading to decisions that have an impact on our lives.

By the language of grown and made, objective and subjective, Habermas distinguishes himself from the liberalism prevalent in English-language bioethics. The latter often emphasizes the freedom of individuals to do what they want, as long as they really want it and do not harm others by doing it. The line assumed by Habermas is more Kantian and aims at respecting humanity, or human dignity, in individuals even behind the façade of their own expressed preferences.[19] This essentially paternalistic notion permits us to protect existing individuals against their own ill-considered and undignified choices (whatever these may be). More importantly in our present context, it gives us a criterion to approximate and predict the reasonable opinions that our potential children could have concerning changes that we make in their physique before they are born. Is it reasonable to resent being born? Habermas does not seem to think so. Is it reasonable to resent being a clone? Habermas seems to think that this would be fitting.

A Critique of New Biotechnologies

In the light of his views, Habermas believes that entirely human-made individuals could not be treated with "equal dignity" in the defined sense, on two accounts. First, they could not take part in decisions leading to their existence as designed, manufactured entities, which means that their choices would not be respected. And second, because they do not have a "grown part" to begin with, respect for their inner worth could not enter considerations at all. They could not, in other words, be understood as free and dignified human beings in equal communication with others. Habermas sees cloning and genetic manipulation as examples of producing human beings in this inadvisable manner.[20]

Children are, of course, influenced by their parents, siblings, and the rest of their social environment in ways that they have not themselves chosen. In theory, this could deny them their freedom and dignity as effectively as cloning and genetic manipulation. According to Habermas, however, individuals can come to terms with their upbringing, education, and other formative experiences by evaluating them as adults, and by responding to them as they see appropriate. They can turn their backs to their childhood values, and they can let their acquired intellectual, musical, and athletic skills deteriorate. With cloning and genetic manipulation, Habermas believes, things are different. When the influence of others is in an individual's constitution, it cannot be similarly shed off or denied.[21] If someone else determines our biological or genetic traits before we are born, this

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creates an asymmetry in the relationship between us and them that simply cannot be annulled or rectified.[22]

By saying that cloned and genetically manipulated individuals cannot be understood as free and dignified human beings Habermas does not, as far as I can see, mean that they would necessarily be inferior to others,[23] or feel inferior to others,[24] or that others should see them as inferior.[25] The point is not in this sense ontological, psychological, or sociological.[26] Habermas repeats time and again that the claims concerning felt or attributed unfreedom and inferiority *could* or *might* be empirically true; but this leaves ample room for the possibility that they *could* or *might* equally well be empirically untrue. What he seems to mean, instead, is that human-made individuals such as clones would not conceptually fit our ethical self-understanding as a species of equally dignified and autonomous decisionmakers. Regardless of any actual consequences, the existence of clones and other genetically determined individuals would undermine our self-perceived way of being and thus spell, logically, the demise of humanity as we know it. The first clone to enter the negotiations in which our shared norms are defined would irrevocably change the way in which we now see one another as spontaneously grown, autonomous decisionmakers.

Habermas explains his stance on the relationship between children and parents who have biologically "programmed" them as follows:

> Our concern with programming here is not whether it will restrict another person's ethical freedom and capacity of being himself, but whether, and how, it might eventually preclude a symmetrical relationship between the programmer and the product thus "designed." Eugenic programming establishes a permanent dependence between persons who know that one of them is principally barred from changing *social* places with the other. But this kind of social dependence, which is irreversible because it was established by ascription, is foreign to the reciprocal and symmetrical relations of mutual recognition proper to a moral and legal community of free and equal persons.[27]

So, despite the occasional appeals to people's actual and felt freedom and ability to govern themselves in *The Future of Human Nature*, the crux of the matter seems to be the conceptual relationship between members of humanity as we understand it.

Habermas infers from this that we should not attempt to produce clones, because their existence would destroy our self-seen humanity. We should not allow prenatal human enhancements or germ-line gene therapies, either, because they would similarly damage our ethical self-understanding and turn future people into products. And we should probably be wary of allowing the genetic engineering of the not yet born both by selection and by therapies, because this would be reifying and because we cannot ask for their consent. The only emerging medical biotechnology that Habermas condones almost unequivocally is somatic cell gene therapy on people who have already been born, provided that this can be administered safely and effectively.

Habermas's Critics

By trying to protect humanity on two fronts—those of personal choice and inner worth—Habermas exposes his view to two types of monistic criticism. Some maintain that choice is overrated in bioethical debates, and that our human worth

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can need even stronger protections than Habermas suggests. Others say that choice is the only real consideration in the assessment of new technologies, and that it should not be restricted as hastily as Habermas does. The defenders of the former position include Michael Sandel and Leon Kass; the advocates of the latter include Jonathan Glover and John Harris.

Choice Is Overrated

Sandel believes that the current emphasis on personal choice creates an illusion that we (and our children) are self-made. This numbs our understanding of life as a gift, not made by us and not fully in our control. As a result, we are rapidly losing our ''openness to the unbidden,'' our ''humility in the face of privilege,'' and our ''willingness to share through solidarity.'' We try to turn children into what we want them to be, instead of accepting them as God or nature have given them. We think that we have the power and the responsibility to produce perfect offspring. And we think that those who have not succeeded in this are to blame and do not therefore deserve our spontaneous assistance and solidarity.[28]

Based on these observations, Sandel argues that, although curing diseases is fine, we should not on a general level bow to the bioscientific ''project of mastery.'' The project of mastery, he thinks, manifests itself in all science- and market-driven attempts to achieve human enhancement, design, and perfection.[29] If we yield to this, we will lose the foundation of our social and human existence and end up having ''nothing to affirm or behold outside our own will.''[30]

Sandel directs some of his comments against Habermas, criticizing him of excessive confidence in the ethics of autonomy. Sandel believes that talking about autonomy, fairness, and rights puts too much theoretical stress on individuals, when the real basis of our lives is in communal and social relations.[31] The critique is perhaps not entirely fair to Habermas, whose main aim is to protect the dignity rather than the (empirical) freedom of human beings. But it reminds us that Habermas does employ two vocabularies in *The Future of Human Nature*. One is the lexicon of freedom—how programmed or manufactured people ''might'' not have control over their lives. The other is the glossary of dignity—how the deep self-understanding of egalitarian citizens would be lost by technological advances. The first line of argument would need empirical verification, whereas the second is a question of philosophical argument.

Sandel has problems of his own when it comes to keeping factual and normative claims apart. A natural interpretation of his considerations, yet one that he himself renounces, proceeds from facts to norms in a consequentialist vein. If we accept too many genetic and reproductive technologies, our attitudes toward procreation change from awe to illusory mastery. We then become more self-reliant and selfish, drift away from our solidaristic practices, and ultimately damage society and decrease the welfare of its members. Not so, however, according to Sandel, who wants the point to be directly ethical: regardless of outcomes, the assumption of the project of mastery is immoral and diminishes our human dignity.[32] Although both ideas are readily understandable, there is a possibility that the latter, more conceptual view gains undeserved support from the empirical claim.

A different critique of freedom and autonomy in the name of human dignity is offered by Kass, who believes that reproductive and genetic technologies contradict our proper, traditional ways of procreation. He echoes Sandel by

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maintaining that the core of humanity cannot be found in individuals or their choices, but in communities. But he then adds a different twist to the tale by claiming that moral communities, to stay alive, need a certain type of regular renewal in community membership. This is provided by procreation: by bearing and rearing children naturally, without technological aids. Sex between a woman and a man, followed by a relatively unmonitored pregnancy and childbirth, merges in a wondrous way erotic lust and romantic longing with an almost accidental commitment to pass on one's genes, roles, and ways to future people. Couples want to satisfy their desires and yearnings, but in so doing they naturally turn into links in the chain that guarantees the survival of their community's population and way of life. Children appear in their parents' lives as gifts, and in time the parents have to surrender their positions as young mothers and fathers—and gradually also their other roles in social life—to the new individuals they have begotten and conceived.[33]

Kass deduces from these ideas that technologies separating reproduction and sex threaten the continuity of moral traditions. And because humanity as we know it is based on moral traditions, humanity would be similarly threatened by these technologies. We should not, therefore, allow genetic selection, the creation of human embryonic stem cell lines, or reproductive cloning.[34] And because one thing in technology so easily leads to another, we should not allow gene enhancements or therapies, either.[35]

The arguments put forward by Kass can be criticized on many grounds. His rather idiosyncratic description of the strict links between sex, reproduction, and moral tradition has not been well received by all,[36] and his precautionary concerns have been seen as excessive.[37]

As for Habermas, Kass's view can be seen as either critical or supportive, depending on interpretations. The more liberal aspects of Habermas's account are open to the criticism that moral tradition and humanity are what really matter in the assessment of novel biotechnologies. But his more conservative conclusions could gain some indirect support from yet another attempt to protect humanity, biological and social, as it is.

Choice Is Underrated

Glover argues that freedom and independence from parental interventions is not an all-or-nothing quality but a matter of degrees. Educational, medical, and genetic choices all have an impact on children, but this impact has to be evaluated neutrally. Glover thinks that human nature—the entity that Habermas purportedly tries to defend—contains both good elements that are worth protecting and bad elements that are not worth protecting. And he believes that if parents can prevent suffering in their children, or otherwise make their children's lives more flourishing, they may have a duty to do so.[38]

These thoughts lead Glover to hold that it would be wrong of parents not to safeguard their children against debilitating conditions and diseases, however natural the origin of those conditions and diseases might be. It would also be wrong to forbid parents to promote the flourishing of their children, as this could mean forbidding them to perform their moral duties. When it comes to medical genetics, caution is needed in both permissions and restrictions. As Glover writes,

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> It is true that too much genetic intervention might make us feel ourselves mere puppets of our parents and the technology they had at their disposal. But several values are at stake and the importance of independence from parents is not an absolute. For a richer life, or for greater power to shape ourselves, some loss of independence may be a price worth paying.[39]

And if this is true, then humanity, understood as freedom and flourishing, can be best protected by allowing all sensible forms of genetic selection and modification.

Harris, too, disagrees with Habermas. According to him, genetically modified children should probably just be glad that they have been protected and enhanced by the choices of their parents.[40] Their characteristics may be chosen or influenced by others, but this is true about all of us.[41] To worry about humanity's abstract demise when people can be made better like Habermas does is, in Harris's words, "excruciatingly complex and crushingly conservative."[42]

Harris rejects the claims Habermas makes about autonomy, on two levels. First, he argues that genetic manipulation and other enhancements known to science do not chain the autonomy of individuals or exclude them from the community of moral equals.[43] Commenting on Habermas's concern about an "external or alien determination of the natural and mental constitution of a future person, prior to an entry into the moral community,"[44] he states,

> There is no way that any of the methods of enhancement considered . . . could have the effect of determining "the natural and mental constitution of a future person" if this implies some loss [of] autonomy. This is scaremongering of an order that could surely only be the product of a bamboozled mind.[45]

Second, he observes that even if genetic manipulation did restrict autonomy and participation, it might well be more important for a future person to be a member of the community of healthy people than to be a member of the community of moral equals.[46] The message of these considerations is that humanity—as we know it, with diseases, disabilities, and the like—does not particularly deserve our protection. Humanity and human beings can change, and as long as this is for the better, the development should be encouraged. If future individuals can rationally prefer their manipulated lives to any "organically grown" alternatives, new technologies should be saluted rather than frowned upon.

Glover and Harris conclude that autonomy in the sense of diminished self-appreciation cannot be convincingly linked with genetic modification, whereas autonomy in the sense of parental and individual choices can. The bans and restrictions Habermas recommends prevent parents and medical professionals from making responsible decisions that their duties and responsibilities require of them. As Glover and Harris see things, Habermas overrates a questionable kind of autonomy and underrates its morally most relevant variety.

Do Habermasian Arguments Merit Further Study?

What, then, are the arguments that Habermas presents against emerging biotechnologies, and do any of them merit further study? My impression is that three layers of justification can be distinguished, although only two of them are seriously intended by Habermas.

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Feelings of Unfreedom and Inferiority

The first level of reasoning is purely empirical and outcome based. If we allow the genetic modification of human beings, we destroy irreversibly equality between producers and products—parents and their programmed children. This will make the children feel unfree, unautonomous, and inferior, and this in its turn will cause psychological damage and social problems.

Habermas does frequently open the door to this interpretation by his choice of words, but it is difficult to believe that he would, on reflection, think much of it. He is not a consequentialist, and he does not rely on individualistic empirical findings in matters of morality and ethics. Interestingly, however, this is the reading on which many of his critics have concentrated. Sandel and Kass reprimand him for his dependence on individual choice and well-being and argue that he ignores higher values such as dignity and solidarity. Glover and Harris reproach him for his alarmist views on the reactions of modified individuals and argue that he relies too much on archaic and intrinsically conservative moral notions.

The reactions from both camps are understandable. Habermas is a Kantian liberal, and *The Future of Human Nature* is his attempt to deal with the issues of human genetic engineering without using the welfare-liberal concepts of liberty and well-being *and* without making constant reference to the concept of human dignity so popular in German bioethics and biolaw. The problem with ''liberty'' and ''well-being'' is that they can only be applied in the context of already-existing individuals. It makes sense to increase people's freedom and happiness, when these are genuinely *theirs* already prior to our actions. It does not, however, make equal sense to refer to the freedom and happiness of future people as criteria for our actions, as we create and define these attributes with their bearers, thereby making them contingent on our own will. Consequentialist thinkers have for some time been aware of this issue,[47] but they have mostly chosen to ignore it. The problem with dignity, on the other hand, is that its scope has been limited to the moral evaluation of prepersonal human life.[48] Sandel and Kass, who have written their critiques after Habermas's contribution, can, of course, be seen to develop the concept of dignity beyond its prenatal uses. Nevertheless, the criticisms of all four miss the point insofar as they assume that Habermas wanted his case to rest on empirical grounds.

Consent and Precaution

The second level of Habermas's reasoning proceeds from the idea that human beings should not be subjected to treatment that they have not themselves chosen or accepted. There are limits to the applicability of this principle, but following its logic through does draft a possible Habermasian line of argument. Let me present the thesis and its justification step by step in dialogue form. ''Habermas'' (H) opens the discussion, and a permissive liberal (PL) acts as his opponent:

H: We should not genetically modify people before they are born, because we don't have their permission for it.
PL: We don't have people's permission to bring them into existence, either. Does this mean that we should not have children?[49]

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H: Of course not. But then, life is always good.
PL: And you are saying that safe, efficient genetic modification aimed at promoting health and well-being is not?
H: We don't know, because genetically modified people might feel inferior to others.
PL: Or they might not. And even if they did, surely that would be a matter of counseling and education, not of bans and prohibitions?
H: Well, yes. But people do react strongly to these things. Just think about adopted children and their efforts to find out about their biological parents. There are cases in which lifelong suffering ensues, despite external help.
PL: That is not necessarily a good comparison. Genetically modified children do know who their parents are.
H: Still, both cases are about biological origins. We simply don't know about people's reactions to such fundamental matters.
PL: And besides, are you suggesting that adoption should be banned because the children involved may have psychological issues?
H: A ban on adoption would be unwise, because these are existing children who need decent homes. But what is the good of producing possibly disturbed individuals just to satisfy their parents' wishes?

At the end of this conversation, neither party is convinced that the opponent has a case. But it shows the outline of a possible argument from choice, precaution, and equal participation in life decisions.

When we consider the fate of the unborn, we must exercise thorough caution, because we are making unilateral decisions in which they should, but cannot, take part. According to Habermas (and almost everybody else), it is safe to assume that people would consent to being born. But beyond that point of clarity, everything else is a blur. Habermas does make a tentative moral distinction between a clinical attitude (implying healing and cure) and a technological attitude (implying enhancement),[50] but he also notes that "[not] even the highly general good of bodily health maintains one and the same value within the contexts of different life histories."[51] Consent for prenatal cures and enhancements, then, might or might not be forthcoming, and this is where the precautionary principle becomes relevant. It states that technological novelties with potential risks should not be introduced unless there is scientific evidence that these risks are negligible.[52] And because science cannot prove that genetically modified future people would not object to manipulation, it should not be allowed.

Axial Age and the Ethical Self-Understanding of the Species

Even the argument from caution is not, I think, Habermas's most original contribution to the debate. The idea can be found on and between the lines of his book, but it exists perhaps more as homage to the technological pessimism of Hans Jonas than as his own message.[53] The focal role in Habermas's presentation is occupied by the notion of the "ethical self-understanding of the species," with its background narratives and explications. The argument from this notion can be summarized as follows.

The morality by which we live, and have with minor variations lived for two and a half millennia, is the morality of the axial age. This is a factual, historical

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claim, but because it is an indisputable claim about our norms, it has normatively binding implications. The essence of the morality of the axial age is that all people are moral equals. Normatively, this means that every human being should be treated equally, be taken into account equally, and be heard equally in decisions concerning their interests. This is our ethical self-understanding as a species.

The morality of the axial age, however, can only be applied to human beings who are partly grown, that is, not exclusively the products of the human will. Genetically modified people would not have the grown aspect, which means that the morality of the axial age could not be applied to them. In other words, genetically modified people would not be human beings in the sense that our current ethical self-understanding requires. By allowing them to be born we would challenge the historical basis of our morality and jeopardize our fundamental image of humanity.

A Habermasian Approach to Bioethics?

In conclusion, philosophers and ethicists interested in developing a Habermasian approach to the ethics of emerging biotechnologies—and perhaps to bioethics more generally—could concentrate on at least three themes. First, is there something original in his argument from equality, choice, and precaution, as outlined in my dialogue? Does the idea of everybody's participation somehow naturally allow reproduction but forbid, in the name of caution, prenatal genetic modifications? If it does, what additional premises would be needed? Second, can the idea of axial-age morality be taken seriously? Do all human beings understand themselves in terms of universality, and should they do so? If they do not, but should, what could be done about this and how? Third, in what sense is it true that axial-age morality cannot be applied to genetically modified human beings? What exactly does it mean that they are not even partly grown? And if it means something truly new, like Habermas suggests, what would be wrong with adjusting our attitudes accordingly, and simply welcoming this new subspecies into the great siblinghood of humanity?

Clear answers to these questions could mark the emergence of a new and exciting way of assessing scientific advances and technological developments.

Notes

1. Habermas J. *The Future of Human Nature*. Rehg W, Pensky M, Beister H, trans. Cambridge: Polity Press; 2003.
2. His earlier work does, of course, inform his presentation in *The Future of Human Nature*. I have said more about this connection in Häyry M. *Rationality and the Genetic Challenge: Making People Better?* Cambridge: Cambridge University Press; 2010.
3. For an informative overview on the situation in the United States, see Baruch S, Kaufman D, Hudson KL. Genetic testing of embryos: Practices and perspectives of US in vitro fertilization clinics. *Fertility and Sterility* 2008;89:1053–8.
4. See note 2, Häyry 2010, at 174–6.
5. See note 2, Häyry 2010, at 17n34.
6. As pointed out by Green RM. *Babies by Design: The Ethics of Genetic Choice*. New Haven, CT: Yale University Press; 2007, at 57.
7. Wilmut I, Schnieke AE, McWhir J, Kind AJ, Campbell KHS. Viable offspring derived from fetal and adult mammalian cells. *Nature* 1997;385:810–3.
8. Thomson JA, Itskovitz-Eldor J, Shapiro SS, Waknitz MA, Swiergiel JJ, Marshall VS, et al. Embryonic stem cell lines derived from human blastocysts. *Science* 1998;282:1145–7.

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9. See note 2, Häyry 2010, at 124–73.
10. It should be noted that I have only read the book in its English translation. This means that my interpretations can occasionally catch the translators' rather than the author's lines of thought. It would be interesting to compare my results with the results of someone who has only used the German text.
11. See note 2, Häyry 2010. Other interpretations of Habermasian lines of argument from *The Future of Human Nature* (and beyond) can be found in Green RM. Confronting rationality. *Cambridge Quarterly of Healthcare Ethics* 2011;20:216–27; Árnason V. Nonconfrontational rationality or critical reasoning. *Cambridge Quarterly of Healthcare Ethics* 2011;20:228–37; Gunson D. Are all rational moralities equivalent? *Cambridge Quarterly of Healthcare Ethics* 2011;20:238–47; Herissone-Kelly P. Habermas, human agency, and human genetic enhancement: The grown, the made, and responsibility for actions. *Cambridge Quarterly of Healthcare Ethics* 2012;21:200–210; Gurnham D. Bioethics as science fiction: Making sense of Habermas's *The Future of Human Nature. Cambridge Quarterly of Healthcare Ethics* 2012;21:235–246; and Gunson D. What is the Habermasian perspective in bioethics? *Cambridge Quarterly of Healthcare Ethics* 2012;21:188–199.
12. See note 1, Habermas 2003, at 40.
13. See note 1, Habermas 2003, at 73, 92.
14. See note 1, Habermas 2003, at 55. See also note 2, Häyry 2010, at 36–7.
15. See note 1, Habermas 2003, at 40.
16. Jaspers K. *The Origin and Goal of History (orig. 1949)*, Bullock M, trans. New Haven, CT: Yale University Press; 1953.
17. See note 1, Habermas 2003, at 53–60.
18. See note 1, Habermas 2003, at 58.
19. I have explained my views on the Kantian position in Häyry M. The tension between self-governance and absolute inner worth in Kant's moral philosophy. *Journal of Medical Ethics* 2005;31:645–7.
20. On cloning, see note 1, Habermas 2003, at 62–3; see note 2, Häyry 2010, at 140–2. On genetic manipulation, see note 1, Habermas 2003, at 51–2, 86; see note 2, Häyry 2010, at 179, 181–2.
21. See note 1, Habermas 2003, at 49–51.
22. See note 1, Habermas 2003, at 64.
23. See note 1, Habermas 2003, at 60.
24. See note 1, Habermas 2003, at 54.
25. See note 1, Habermas 2003, at 65–66.
26. See note 2, Häyry 2010, at 37.
27. See note 1, Habermas 2003, at 65.
28. Sandel M. *The Case Against Perfection: Ethics in the Age of Genetic Engineering*. Cambridge, MA: Belknap Press of Harvard University Press; 2007, at 45–6, 85–7, 89–92. See also note 2, Häyry 2010, at 33–5.
29. See note 28, Sandel 2007, at 85ff.
30. See note 28, Sandel 2007, at 100.
31. See note 28, Sandel 2007, at 79–82.
32. See note 28, Sandel 2007, at 95–7.
33. Kass L. *Life, Liberty, and the Defense of Dignity: The Challenge for Bioethics*. San Francisco: Encounter Books; 2002, at 19–22, 53, 155–61, 269–72. See also note 2, Häyry 2010, at 32–3.
34. See note 33, Kass 2002, at 33, 134–6, 172.
35. See note 33, Kass 2002, at 121–3, 130ff.
36. Sandel M. The ethical implications of human cloning. *Perspectives in Biology and Medicine* 2005;48:241–7.
37. See note 2, Häyry 2010, at 180–1.
38. Glover J. *Choosing Children: Genes, Disability, and Design*. Oxford: Clarendon Press; 2006.
39. See note 38, Glover 2006, at 72.
40. Harris J. *Enhancing Evolution: The Ethical Case for Making Better People*. Princeton, NJ: Princeton University Press; 2007, at 142.
41. See note 40, Harris 2007, at 139.
42. See note 40, Harris 2007, at 137.
43. See note 40, Harris 2007, at 141–2.
44. See note 1, Habermas 2003, at 79. Italics in ''future'' removed.
45. See note 40, Harris 2007, at 141. Italics in ''future'' removed,

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46. See note 40, Harris 2007, at 141.
47. Parfit D. *Reasons and Persons*. Oxford: Clarendon Press; 1984. This book exposed the fallacies of thinking about future people's well-being by using traditional moral intuitions.
48. On this latter point, see note 1, Habermas 2003, at vii.
49. For the record, "yes" would sound like a very reasonable answer to me. See, e.g., Häyry M. A rational cure for pre-reproductive stress syndrome. *Journal of Medical Ethics* 2004;30:377–8.
50. See note 1, Habermas 2003, at 43, 51–2.
51. See note 1, Habermas 2003, at 86.
52. See note 2, Häyry 2010, at 190–3.
53. Jonas H. *The Imperative of Responsibility: In Search of Ethics for the Technological Age (orig. 1979)*. Jonas H, Herr D, trans. Chicago: University of Chicago Press; 1984.

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