

A child's right to a decent future? Regulating human genetic enhancement in multicultural societies

Associate Professor Robert Sparrow,
Australian Research Council Future Fellow,
School of Philosophical, Historical and International Studies,
Monash University.

A version of this paper appeared as:

Sparrow, R. 2012. A child's right to a decent future? Regulating human genetic enhancement in multicultural societies. *Asian Bioethics Review* 4 (4).

Please cite that version

Should significant enhancement of human capacities using genetic technologies become possible, each generation will have an unprecedented power over the next. I argue that it is implausible to leave decisions about the genetic traits of children entirely up to individuals and that communities will sometimes be justified in intervening to protect the interests of children against their parents. While a number of influential authors have suggested that the primary interest that the community should aim to protect is the child's right to "an open future", when we examine closely what we desire for our children, it is clear that sometimes we have good reasons to try to *restrict* their opportunities to pursue dangerous, corrupting, or meaningless projects. Rather than maximise the openness of their future, then, we should strive to ensure that children have access to sufficient opportunities to make available a reasonable range of valuable life-choices. Importantly, both the assessment of what counts as a reasonable range and our judgements about which forms of life are valuable must inevitably make reference to substantive notions about the nature of human flourishing. A more appropriate formulation, then, of what should be protected by law and/or regulation, is the child's right to a "*decent future*", understood as a future which promises a reasonable range of opportunities to lead a life of human flourishing. I then proceed to highlight the challenge posed by the task of settling upon an idea of what counts as a decent future, for multicultural societies wherein ideas about the standards against which we should evaluate human flourishing are likely to be highly contested.

Key words: Human Enhancement; Ethics; PGD; Open future; Regulation; Welfare.

A child's right to a decent future? Regulating human genetic enhancement in multicultural societies

Introduction

The debate about the ethics — and regulation — of human enhancement is actually at least two different debates. There is a debate about enhancing *existing* people using drugs, brain-machine interfaces, and advanced medical technologies, et cetera (Buchanan, 2011; Jotterand, 2008; Lin & Allhoff, 2008; Roco & Bainbridge, 2002). Given the kind of liberal democratic public political cultures in which these debates are taking place, the basic structure of this debate involves balancing respect for individual autonomy with concerns about risks, the social consequences of enhancement, and the possibility that collective action problems might effectively require people to engage in enhancement. However, there is also a debate about enhancing *future* individuals using various genetic technologies.

It is this second debate that is my concern in this paper. In particular, I will be concerned with the debate about the ethics and regulation of the use of Pre-implantation Genetic Diagnosis (PGD) to bring into existence individuals with “enhanced” genomes. I will argue that it is implausible to leave the decisions about the genetic traits of children that are made possible by this technology entirely up to individuals and that communities will sometimes be justified in intervening to protect the interests of children against their parents. A number of influential authors have suggested that the primary that interest the community should aim to protect is the child's right to “an open future”. Yet when we examine closely what we desire for our children, it becomes clear that, rather than maximise the number of options available to them, we should strive to ensure that children have access to sufficient opportunities to make available a reasonable range of valuable life-choices. Importantly, both the assessment of what counts as a reasonable range and our judgements about which forms of life are valuable must make reference to substantive notions about the nature of human flourishing. A more appropriate formulation, then, of what should be protected by law and/or regulation, is the child's right to a “*decent future*”, understood as a future which promises a reasonable range of opportunities to lead a life of human flourishing. I will then proceed to highlight the challenge involved in settling upon an account of what counts as a decent future in multicultural societies, wherein ideas about the standards against which we should evaluate human flourishing are likely to be highly contested.

Before I proceed to my main argument it is first necessary to discuss the “how”, “what” and “why” of human enhancement, as identifying the correct answers to these questions will help explain the attraction of the appeal to “a child's right to an open future” that is the primary focus of my critique here.

Genetic human enhancement: how?

There are two different technologies that have been proposed as a means of improving the genetics of future children.

In theory at least, direct genetic modification of human embryos using recombinant-DNA technology would allow the creation of human beings with genes from other species or with “designer” genes and thus quite radical modification of phenotype (Silver, 1999; Stock, 2003). However, given the complexity of human biology and the role of genes within it, genetic modification of human beings is likely to remain a radically experimental technology for the foreseeable future, such that it would be exceedingly difficult — if not impossible — to be confident of the effect of the genetic modification on the health and well-being of the resulting individual. One would need to be very brave parent indeed to do this to your child. For this reason, I am not going to devote further attention to recombinant-DNA technology in this paper.

The other technology that has been discussed as offering possibilities for human enhancement is preimplantation genetic diagnosis (Savulescu, 2001; Glover, 2006; Green, 2007). PGD involves conducting a genomic analysis on a number of different embryos created outside of the human body in order to choose an embryo with (or without) specific genes for implantation into a woman’s womb. PGD is already routinely performed for therapeutic purposes. If we could reliably identify genes associated with above-species-typical capacities then PGD could be used for “enhancement” by selecting for children with these genes.

Unlike recombinant-DNA technology, PGD will only allow selection of embryos that might have occurred naturally, which places an obvious limit on the sorts of phenotypes that might be generated by this method. Moreover, parents attempting to use PGD for enhancement will be limited to choosing amongst a small number of embryos, each of which possesses some random recombination of their (the parents’) genes. Should it become possible to derive artificial gametes from stem cells, as a number of authorities (Gkoutela, Lindgren & Clark, 2011; Mathews *et al.*, 2009; Whittaker, 2007) have predicted, this would greatly increase the power of PGD by allowing selection from amongst a much larger number of embryos created using artificial gametes.¹

Three important features of the debate about PGD for enhancement

Like the debate about the enhancement of existing individuals, the debate about the ethics and regulation of PGD for human enhancement also involves considerations of liberty, harm, social consequences, and collective action problems. However the debate about the ethics of PGD for enhancement has three important features that distinguish it from the debate about enhancing existing individuals.

First, the people most affected, those who will be enhanced or left “normal” cannot participate in the decision about enhancement. A concern for individual liberty, then, in the first instance at least, can only be a concern for the liberty of parents to make decisions about the enhancement or otherwise of their children. However, because it is implausible to think that parents have an *unlimited* right to determine the lives of their children, this means that is difficult to resile from a debate about regulation (Dekker, 2009; Fox, 2007; Sparrow, 2010a). Parental liberty must be

circumscribed by a concern for the interests of the future child. Quite how we conceptualise the interests of children who are yet to be born will be the topic of much of my discussion below.

Second, what I shall call the “environmental analogy” appears to place significant limits on plausible conclusions in this debate. An organism’s phenotype — what it is like — is always the product of a relationship between a genome and an environment (Kitcher, 1996). Advocates of enhancement have pointed out that we *already* typically pursue a range of enhancements for our children by shaping their environments — for instance by educating them, feeding them healthy diets, and perhaps even prescribing drugs such as human growth hormone or Ritalin (Harris, 2007, pp. 1-7; Agar, 2004, pp. 111-120; Buchanan, Brock, Daniels, & Wikler, 2000, pp. 156-161; Savulescu, 2008, pp. 51-68). If we are willing to tolerate the pursuit of enhancement through environmental means then it appears that we should also be willing to tolerate the use of genetic technologies to achieve the same purposes. The impact on the future individual is, after all, the same.

The third distinctive feature of debates about enhancing future people points in quite a different direction. Decisions that determine who will be born — choices between different future individuals — are what has come to be known in debates around Derek Parfit’s (1984) work as “non-person-affecting”. They don’t (directly) affect anyone because our assessments of harm and benefit typically proceed via a counterfactual: what would an affected individual’s well-being have been if we had acted differently.² However, in decisions about genetic selection, acting differently brings another person into existence, so that this counterfactual fails. If we have reasons to enhance — or to refrain from enhancing — future individuals, then, these cannot be grounded in arguments about harming or benefiting particular individuals.

What makes the debate about enhancing future persons so philosophically interesting is that the environmental analogy suggests that we have strong reasons to enhance people, but the non-person-affecting nature of the decision means that we don’t harm anyone if we don’t live up to those obligations (Sparrow, 2011a). How we think about this tension plays a very important role in determining how we think about the ethics and the regulation of enhancement via embryo selection.

Genetic human enhancement: Why?

Notoriously, Julian Savulescu (2001) has argued that, when we are having children, we should choose “the best child possible.” Once we contemplate genetic selection it appears as though our reasons for therapy also motivate enhancement and indeed suggest that we should choose the “best embryo” (Savulescu & Kahane, 2009).

There are actually three different things that one might mean by the claim that parents should choose “the best child”.

One thing we might mean is that parents should have the child that would be best *for the parents*. There is a significant conceptual confusion in Savulescu’s original formulation of the principle of procreative beneficence, which encourages this interpretation. In the original paper (Savulescu 2001) setting out the putative obligation of procreative beneficence, and in another that closely followed it (Savulescu, 2002), Savulescu slides between the claim that parents should have the child that *they think* is best and the claim that they should have the child that actually *is* best (Sparrow,

2007). These are quite different notions. The claim that parents should choose the child that they think is best is trivial. *Of course* parents will make the decision that *they* think to be best; then one way of fleshing out *this* idea is to suggest that parents should have the child that would be best for them – by helping them in a family business or looking after them when they retire. However, while there may be strong pragmatic reasons for parents to enhance their children’s capacities to serve their interests, it hard to believe that parents are *morally obligated* to advance their own interests through genetic selection of their children.

So you might think that parents should choose the child that would be best for society – “Have the baby that would be good for Australia”. Yet the idea that parents should be worried about the health of the nation, the race, the species, has been largely discredited by the history of fascist and Fabian eugenics (Black, 2003; Kevles, 1985; Paul, 1995). Moreover, if parents were obligated to have the child that would be best for society, most parents would thereby be required to sacrifice their own child’s well-being for the sake of social welfare, for instance, by ensuring that their child would be happy working in a low-status social role (Sparrow, 2011a). This is an implausible account of the moral obligations of prospective parents.

The third possibility is to argue that parents should choose children that would be best “for the child themselves”. That is, parents should choose the child that will have the best life prospects. This formulation has two immediate advantages over the other accounts. First, it accords with what we already believe about the duties of parents: good parents put the interests of their own children first in a wide range of circumstances. Second, this formulation places the maximum intellectual distance between contemporary advocates of human enhancement and the morally repugnant history of coercive eugenics associated with the pursuit of the best interests of society.

The most compelling reason to pursue human enhancement, then, is out of a concern for the future life prospects of our children (Savulescu & Kahane, 2009).

Genetic human enhancement: What?

Granted that we should be concerned with the “life prospects” of children, we still need to work out how best to think about the “life prospects” of a child. One formulation would be to insist that we should desire that children should have the best possible life, understood through the lens of well-being or welfare. However, when we analyse the concept of well-being and examine its implications for genetic selection of individuals, we will discover that the proper object of our concern is the capacity of children to choose and pursue their own projects.

There are three plausible accounts of well-being. (Very) roughly speaking: *hedonistic accounts* evaluate well-being with reference to the amount of pleasure, or the number of pleasurable experiences, in an individual’s life; *preference-satisfaction accounts* pay attention to the extent to which an individual’s preferences are satisfied or if they “get the things that they want” (regardless of whether this actually makes them happy or not); and, “*objective list*” theories measure well-being with reference to the number of objectively good things (such as truth, friendship, beauty, etc) present in an individual’s life (Griffin, 1986).

Unfortunately, hedonism turns out to be a very dangerous account when it comes to thinking about the welfare of future individuals in the context of the enhancement debate, because it suggests that

we should choose embryos that would grow into people who would go through life in a warm haze of serotonin and opioids as a result of their day-to-day brain chemistry. This is perilously close to a *reductio* of hedonism (Sparrow, 2007).³

Preference-satisfaction accounts also look implausible here because engineering desires doesn't seem to be the right way to improve individuals' well-being. For instance, some obsessive compulsives have extra desires that they are capable of satisfying on a daily basis. If I could select an embryo that would grow into a child's with a mild obsessive-compulsive desire to wash their hands, which they can do every five minutes, they will satisfy more of their preferences over the course of their life.⁴ This looks like a pretty silly idea about what would count as a genetic improvement to your child.

Of these accounts, then, the objective list theory, which would require us to improve our children's access to things that are actually objectively good, looks like the strongest candidate. The problem with the objective list account, however, is that it renders future children's well-being hostage to their parents' ideas about what sort of things appear on the list of objective goods. If I select a child who is genetically well-suited to the project of achieving knowledge of the world through rational enquiry because I think that scientific knowledge is objectively good, but my child grows up wanting to pursue the good of friendship instead, which they are ill-suited to as a result of being overly rational, I may have done them a serious disservice (Agar, 1998).

A number of authors, including Nicholas Agar (1998; 2004), Jonathan Glover (2006), Dena Davis (2001), and Allen Buchanan, Dan W. Brock, Norman Daniels, and Daniel Wikler (2000), have therefore argued that "openness of future" is, instead, the appropriate metric for evaluating the extent to which enhancements improve future individuals life-prospects [See also Robertson (2003; 1994) and Bailey (2005)]. That is, what we should attempt to do is to preserve for our children the most options, so that *they* can make the decisions themselves about how they want their lives to go. This in turn would require ensuring that they are born healthier, happier, more intelligent, and with longer life expectancies, etc, on the assumption that these are all goods that increase the availability of options for those who possess them (Agar, 1998). A concern for the openness of futures resonates strongly with the liberal intuitions and institutions of the societies in which most of the debate about the regulation of PGD is taking place.

Who should decide on the genetics of children?

It is one thing to argue that we should be concerned with the welfare and/or "openness of future" of future individuals, it is another thing to establish who should making decisions about the use of genetic technologies to shape future individuals.

Parents as guardians of their children's interests?

There are a number of grounds for thinking that *parents* should be the ones who should decide upon the genetics of their children.

To begin with, parents typically care deeply about their children and have their best interests at heart. They are also well placed, by virtue of having local knowledge, to make assessments about the needs of their particular child. Assigning the promotion and protection of the interests of children to

those closest to them – their parents – may be a better way of ensuring that each and every child is looked after than postulating a general duty to promote and protect the interests of children, to be acquitted by the state or the community (Goodin, 1988).

Moreover, for many people, an important part of their conception of the shape of their own lives – and whether they are going well or badly – includes the flourishing and the character of their children. To the extent that it is appropriate to understand children as representing — at least in part – an extension of the life-projects of their parents, this will also give us a reason to favour parents making choices about the futures of their children.

Some authors have gone further and argued that “reproductive liberty” (Brock, 1994; Dworkin, 1993) includes the right to make decisions about the genetics of one’s child (Bailey, 2005; Harris, 2007; Robertson, 2003 & 1994). If it is wrong to force people to have children or to prevent them from having children, perhaps it is also wrong to prevent people from having children of the particular sort they want? For a certain sort of liberal, then, any sort of state regulation of technologies of genetic selection will violate a central liberty right of parents.

I am unconvinced by this extension of the scope of reproductive liberty. At no other point in human history have parents had the choice of determining their child’s genetics. To argue that this choice is worthy of protection by virtue of the central place of reproduction in the life plans of most individuals is to mistake parents’ *preferences* for their *interests* in reproduction (Sparrow, 2008a).

The law as defender of the interests of future citizens?

In any case, *none* of these arguments are sufficient to establish that parents have an inviolable right to determine the genetics of their future children.

In some cases, parents are *not* the best protectors of their children’s interests. There exist instances of child abuse or of parents having very idiosyncratic preferences when it comes to their future children’s welfare. Where parental decisions threaten to impose severe burdens on their children, we might insist that although parents have a *prima facie* right to make choices that determine the welfare of their children, we simply cannot tolerate future citizens being harmed in this fashion. This is, of course, a well-trodden argument in the context of the philosophy of education, wherein it is reasonably widely agreed that the community has a right to expect that all future citizens will be provided with a certain basic level of welfare and openness of future (Feinberg, 1980).

It is also worth observing that restrictions on parental liberty may also be necessary to avoid bad aggregate consequences arising from the pursuit of the best interests of the child. Some of my recent work has looked at the example of sex selection as a human enhancement technology: if one simply looks at life expectancy, it is better to be born a woman; female embryos also have more open futures at birth by virtue of having the capacity to become pregnant later in life (Sparrow, 2010b, 2010c, 2011b, & 2011c). A number of critics of this work have made the point that the aggregate consequences of parents using sex selection technologies to choose female children would be disastrous (Harris, 2011; Hughes, 2010; Kahane & Savulescu, 2010; Matchett, 2010; Douglas, Powell, Devolder, Stafforini, & Rippon, 2010). As a response to my observations about the implications of the argument for human enhancement for parental obligations, this criticism fails: parents may well have strong moral reasons to make choices which, if they were universalised,

would have disastrous social consequences (Sparrow, 2011b & 2011d). However, it is an entirely sensible point to make when it comes to thinking about the *regulation* of genetic selection. In order to parental pursuit of the best outcomes for their child leading to undesirable social outcomes, such as distorted sex ratios, we might well regulate to prohibit parents making choices that they have, individually, strong moral reasons to make (Sparrow, 2011d).

Finally, we might regulate to avoid collective-action problems, not out of a concern to avoid the aggregate consequences they generate, but to prevent individuals effectively being coerced to enhance their children in order to avoid positional disadvantage. If other parents are enhancing their children and I know that my children will be competing with their children for scarce social goods, then I may have little choice but to embrace for my children even if I have strong philosophical or religious reservations about it (Kavka, 1994). Those who wish to preserve individual choice in relation to enhancement, then, may have a strong interest in avoiding the creation of collective-action problems caused by availability of enhancement.

Regulation to protect the interests of children

The arguments I have surveyed here — a concern for the best interests of the child; a concern to avoid bad aggregate consequences; a concern to avoid destructive collective-action problems — actually pull in different directions. These arguments establish a strong *prima facie* case for regulation of human genetic enhancement. Establishing that the state has *prima facie* grounds for regulation does not, of course, establish that the state has an all-things-considered case for regulation. Any argument for regulation must confront and address sensible liberal concerns about the long-term consequences of empowering the state to regulate reproduction well as a multitude of pragmatic questions that it is well beyond the scope of this brief discussion to consider. The latter two arguments have, moreover, been discussed widely elsewhere (Agar, 2004; Buchanan, Brock, Daniels, & Wikler, 2000; Glover, 2006; Harris, 2007; Kavka, 1994) and thus for the remainder of my discussion I will confine myself to the implications, for regulation, of a concern to protect the interests of the child.

Defending the *welfare* of future citizens

There is at least one case where it appears that non-person-affecting decisions *do* actually harm children, which is when parents bring children into existence who suffer such severe and ongoing pain and distress that it would be rational for the child to prefer to be dead (Steinbock & McClamrock, 1994; Strong, 2005). In such cases, the counterfactual “would they have been better off if they had never existed”, actually seems to be true (Feinberg, 1987).

Thus, out of a concern for the welfare of future children, the state may well have grounds to regulate to prevent the birth of children with lives of this sort. More controversially, if parents are *risking* the birth of such a child, the state may have grounds for intervention in reproductive decision-making.

Beyond this, it is possible that the state should also regulate to ensure that children are born with some minimum basic level of well-being above just having a life “worth living”. The strength of any argument to this conclusion will depend upon how we evaluate the relative force of the

environmental analogy and the claim that no one is harmed by being brought into existence as long as they have a life worth living. In particular, if we think of the failure to provide a given level of well-being through genetic selection as analogous to failing to provide it through education or the provision of social welfare, then we may think that parents are obligated to bring into existence children who will have some minimum level of well-being and that the state has some reason to require this of them.

A child's right to an open future?

Now let us move to consider the implications of a concern for the "openness of future" of the child. There are a number of well-recognised problems with the concept of an open future that call into question the extent to which it is the appropriate way to characterize what it is that the state should be aiming to protect (Mills, 2003).

To begin with, when it comes to assessing the value of different choice sets, it seems that we must pay attention to more than just the number of choices available. If I have access to two supermarkets, one of which sells milk, bread, bananas, and toothbrushes, and the other that sells one hundred different varieties of toothbrush, the former is probably the better supermarket even though the latter offers "more choices". Evaluating the value of different options sets requires more than simply counting the number of options — it also requires evaluating the *worth* of the options.

Different sets of choices may also sometimes be impossible rather than one set simply being bigger or smaller than the other. That is to say, it is not always possible just to "add" choices to a range of options: making one choice available may take another choice away. Sometimes the impossibility of different choices is a pragmatic matter. Thus, for instance, parents might provide their children with genes to optimise their chances of being a successful jockey or a successful basketball player but it is highly unlikely that they will be able to provide them with genes that will allow them to do both. In other cases, however, it may be conceptually impossible for two options to coexist. For instance, it is not possible to make a legally binding commitment to remain married until "death do us part" in a society that allows no-fault divorce. That different options sets may include different and incompatible options further problematises the idea that we can simply look at two sets of options and determine which offers "more" choices.

Finally, some options are actually *bad* for our children. We typically don't bring up our children to shoplift. We don't ask them to try prostitution, show them how to commit a murder, or introduce them to various recreational drugs on the grounds that these are options they might wish to explore in the future. While we may not take explicit steps to make these options entirely unavailable to our children (how could we, after all?), nor do we work to ensure that they have the necessary skills or knowledge that would make these options available to them. Indeed, were an upbringing or course of education to draw the attention of children to these options and set out to provide them with the skills necessary to succeed in them, this would count as a serious mark against it. Education of a child isn't just about expanding options — it is also about making certain options less available.

Both separately and together, these arguments imply that what we *don't* want for our children is an unlimited or even the maximal number of options. Instead, we want our children to have a *reasonable range of valuable life-options*. This is what I'm going to call a child's "right to a *decent* future".

Describing such a future as a “decent future” emphasises two dimensions in which this range of options must meet a minimum threshold in order to be defensible.

First, the child must have a reasonable range of options available to them in order to ensure that they have a chance of flourishing even if they turn out not to desire to pursue the particular ends their parents have envisioned for them. However, unlike the concept of an “open” future, the idea of a decent future does *not* require that parents provide as many options as possible for their children: for the reasons surveyed above, this is impossible — and, indeed, is arguably incoherent.

Second, these options must consist overwhelmingly — if not entirely — in options that could form part of a worthwhile human life. Option sets that consist primarily, or even largely, of options to pursue projects or realize ends that we judge to be evil, corrupt or worthless will not provide a “decent future” no matter how many options they include. Again, however, given the controversy over what a good life consists in — and the possibility that the child will differ from their parents in their evaluation of the relative worth of different life projects — what is required is that these options are “good enough” rather than that they are each the best way of conducting a human life (it would obviously be impossible for every option to consist in the *best* way for a human being to live).

Protecting a child’s right to a decent future

If the state should protect the future life prospects of children, then, this means that the state has *prima facie* grounds to regulate human genetic enhancement to protect children’s right to a “decent future”.

Insisting that children should have a right to a decent future is a long way from requiring parents to enhance their children. Presumably healthy “normal” children have a reasonable range of valuable life options. Moreover, as disability activists have argued convincingly, people born with quite severe impairments may nevertheless have a “decent future” (Asch, 2000; Shakespeare, 2006). If this is true then it would appear that the state would not be justified in requiring parents to use PGD to select “healthy” embryos.⁵ Indeed, a concern for the child’s right to a decent future might only rule out “enhancements” that radically constrain the options available to the future child by shaping their genetics so that they could only succeed in a very limited number of life-projects. Yet because the idea of a “decent future” contains reference to “valuable options” the precise nature of the limits it places on parental decisions around embryo selection will necessarily be controversial.

Regulating human enhancement in a multicultural democracy

In multicultural society what counts as a valuable life-option is radically contested. So in multicultural societies — i.e. all societies — reaching agreement on regulations to govern genetic human enhancement will require conducting a conversation about a range of difficult and contested questions about what kind of life-options we want future citizens to have available to them.

It may be possible to derive some restrictions on the conclusion of such a debate from the procedural requirement that it be conducted under conditions of mutual respect. In particular, in such a debate the “expressivist critique” of decisions regarding genetic selection may have an

especial force (Sparrow, 2008b). While individual parental decisions about genetic selection may express very little – typically parents use these technologies largely because they want their children to have good life prospects—the public claim that children born with some particular set of genes do not have a “decent future” may have a different and more problematic expressive content (Press, 2000). Requiring mixed-race couples in the USA to use PGD to choose white children in order to prevent black children being subject to the welfare-reducing effect of racism, for instance, might well be thought to express a morally repugnant racism that is incompatible with the requirements of mutual respect in a multicultural society. More controversially, as a number of disability scholars have argued forcefully, the therapeutic use of PGD to prevent the birth of children with impairments that fall well short of preventing children from having lives worth living, may also fail to express respect for existing persons with disabilities (Asch, 1988, 1999, & 2000; Kaplan, 1993; Saxton, 1998; Wendell, 1996).

However, it is highly unlikely that such procedural restrictions on what can count as a useful contribution to this debate will be sufficient to determine its outcome. This means that there is no neutral or purely “philosophical” way to solve the problem of regulation of genetic human enhancement. The only way to settle the question of whether particular genetic choices leave a child's right to a decent future intact is through a public discourse that is willing to contest the substantive questions about what makes a human life go well. That is to say, each society must determine where the boundaries of a “decent future” lie by reaching a consensus on what sorts of ways of living a human life are — and are not — valuable. These questions can only be resolved through a dialogue that draws upon the deepest philosophical, spiritual and religious convictions of all those engaged. A democratic *politics* – and not just a liberal philosophy – is the only guarantee that future programs of genetic selection will not jeopardise the freedom and welfare of future citizens.

Conclusion

I have not, in a discussion of this length, been able to treat all the arguments for regulation of human genetic enhancement. Nor have I been able to raise or address all the objections to such regulation. What I hope I *have* shown is that the most plausible interpretation of the argument that parents should enhance their children is that parents should be concerned with the range of options available to their children. Yet analysis of both what it means to have options and of the relation between the availability of options and the life-prospects of the child suggests that the idea of “a decent future” better captures what parents really want for their children than the idea of an “open future.” Given that — as I have also argued here — any plausible regime of regulation of genetic human enhancement will sometimes allow the state to overrule parents in order to defend the interests of future citizens, this means that the state too should be concerned to protect children's right to “a decent future.” Determining what counts as a “decent future”, though, requires making reference to substantive ideas about what makes a human life go well, which are the subject of ongoing controversy in multicultural societies. Settling on laws and regulations to protect and promote the interests of children in the context of genetic human enhancement will therefore require *politics* – understood as negotiation and agreement upon a shared form of life – as well as philosophy.

REFERENCES

- Agar, N. (1998). Liberal eugenics. *Public Affairs Quarterly*, 12(2), 137–55.
- Agar, N. (2004). *Liberal eugenics: in defence of human enhancement*. Oxford: Blackwell.
- Asch, A. (1988). Reproductive technology and disability. In S. Cohen and N. Taub (Eds.), *Reproductive laws for the 1990s* (pp. 69-124). Clifton N.J.: Humana Press.
- Asch, A. (1999). Prenatal diagnosis and selective abortion: a challenge to practice and policy. *American Journal of Public Health*, 89, 1649–57.
- Asch, A. (2000). Why I haven't changed my mind about prenatal diagnosis: reflections and refinements. In E. Parens & A. Asch (Eds.), *Prenatal testing and disability rights* (pp. 234-258). Washington, D.C.: Georgetown University Press.
- Bailey, R. (2005). *Liberation biology: the scientific and moral case for the biotech revolution*. Amherst, New York: Prometheus Books.
- Black, E. (2003). *War against the weak: eugenics and America's campaign to create a master race*. New York: Four Walls Eight Windows.
- Brock, D. (1994). Reproductive freedom: its nature bases and limits. In D. Thomasma & J. Monagle (Eds.), *Health care ethics: critical issues for health professionals* (pp. 43–61). Gaithersburg: Aspen Publishers.
- Buchanan, A, Brock, D. W., Daniels, N., & Wikler, D. (2000). *From chance to choice*. Cambridge: Cambridge University Press.
- Buchanan, A. (2011). *Beyond humanity?* Oxford: Oxford University Press.
- Davis, D. S. (2001). *Genetic dilemmas: reproductive technology, parental choices, and children's futures*. New York and London: Routledge.
- Dekker, T. J. (2009). The illiberality of perfectionist enhancement. *Medicine, Health Care, and Philosophy*, 12, 91–8.
- Douglas, T., Powell, R., Devolder, K., Stafforini, P., & Rippon, S. (2010). Resisting Sparrow's Sexy reductio: selection principles and the social good. *American Journal of Bioethics*, 10(7), 16-18.
- Dworkin, R. (1993). *Life's dominion: an argument about abortion, euthanasia, and individual freedom*. New York: Knopf.
- Feinberg, J. (1980). The child's right to an open future. In W. Aiken & H. LaFollette (Eds.), *Whose child? Children's rights, parental authority, and state power* (pp. 124–53). Totowa, N.J.: Littlefield, Adams & Co.
- Feinberg, J. (1987). Wrongful life and the counterfactual element in harming. *Social Philosophy & Policy*, 4(1), 145-78.

- Fox, D. (2007). The illiberality of liberal eugenics. *Ratio*, 20, 1–26.
- Gkoutela, S., Lindgren, A., & Clark, A. T. (2011). Pluripotent stem cells in reproductive medicine: formation of the human germ line *in vitro*. In K. Appasani & R. K. Appasani (Eds.), *Stem cells & regenerative medicine* (pp. 371–386). Springer Science+Business Media.
- Glover, J. (2006). *Choosing children: genes, disability, and design*. Oxford: Oxford University Press.
- Goodin, R. E. (1988). What is so special about our fellow countrymen? *Ethics*, 98(4), 663-686.
- Green, R. M. (2007). *Babies by design: the ethics of genetic choice*. New Haven and London: Yale University Press.
- Griffin, J. (1986). *Well-being: its meaning, measurement, and moral importance*. Oxford: Clarendon Press.
- Harris J. (2011). Sparrows, hedgehogs and castrati: reflections on gender and enhancement. *Journal of Medical Ethics*, 37, 262-266.
- Harris, J. (2007). *Enhancing evolution: the ethical case for making better people*. Princeton, NJ: Princeton University Press.
- Hughes, J. J. (2010). Humans should be free of all biological limitations including sex. *American Journal of Bioethics*, 10(7), 15.
- Jotterand, F. (2008). Beyond therapy and enhancement: the alteration of human nature *NanoEthics*, 2(1), 15-23. Doi: 10.1007/s11569-008-0025-z
- Kahane, G., & Savulescu, J. (2010). The value of sex in procreative reasons. *American Journal of Bioethics*, 10(7), 22-24.
- Kaplan, D. (1993). Prenatal screening and its impact on persons with disabilities. *Clinical Obstetrics and Gynecology*, 36(3), 605-612.
- Kavka, G. S. (1994). Upside risks: social consequences of beneficial biotechnology. In C. Cranor (Ed.), *Are genes us? the social consequences of the new genetics* (pp. 155–79). New Brunswick, NJ: Rutgers University Press.
- Kevles, D. J. (1985). *In the name of eugenics: genetics and the uses of human heredity*. New York: Knopf.
- Kitcher, P. (1996). *The lives to come: the genetic revolution and human possibilities*. New York: Simon and Schuster.
- Lin, P., & Allhoff, F. (2008). Untangling the debate: the ethics of human enhancement. *NanoEthics*, 2(3), 251-264. DOI: 10.1007/s11569-008-0046-7.
- Matchett, N. J. (2010). Sexual dimorphism and the value of feminist bioethics. *American Journal of Bioethics*, 10(7), 18-20.

- Mathews, D. J. H., Donovan, P. J., Harris, J., Lovell-Badge, R., Savulescu, J. & Faden, R. (2009). Pluripotent stem cell-derived gametes: truth and (potential) consequences. *Cell Stem Cell*, 5(1), 11–14.
- Mills, C. (2003). The child's right to an open future? *Journal of Social Philosophy*, 34(4), 499-509.
- Parfit, D. (1984). *Reasons and persons*. Oxford: Clarendon Press.
- Paul, D. B. (1995). *Controlling human heredity, 1865 to the present*. Atlantic Highlands, N.J.: Humanities Press.
- Press, N. (2000). Assessing the expressive character of prenatal testing: the choices made or the choices made available? In E. Parens & A. Asch (Eds.), *Prenatal testing and disability rights* (pp. 214-233). Washington, D.C.: Georgetown University Press.
- Robertson, J. (1994). *Children of choice: freedom and the new reproductive technologies*. Princeton, N.J.: Princeton University Press.
- Robertson, J. A. (2003). Extending preimplantation genetic diagnosis: the ethical debate, *Human Reproduction* 18(3), 465-471.
- Roco, M.C. & Bainbridge, W.S. (Eds.) (2002). *Converging technologies for improving human performance: nanotechnology, biotechnology, information technology and cognitive science*. Arlington, Virginia: National Science Foundation.
- Savulescu, J. & Kahane, G. (2009). The moral obligation to create children with the best chance of the best life. *Bioethics*, 23, 274–90
- Savulescu, J. (2001). Procreative beneficence: why we should select the best children. *Bioethics*, 15 (5),413-426.
- Savulescu, J. (2002). Deaf lesbians, “designer disability”, and the future of medicine. *British Medical Journal*, 325, 771-775.
- Savulescu, J. (2008). Procreative beneficence: reasons not to have disabled children. In *The sorting society*, edited by L. Skene and J. Thomson. Cambridge, New York: Cambridge University Press.
- Saxton, M. (1998). Disability rights and selective abortion. In R. Solinger (Ed.) *Abortion wars: a half century of struggle, 1950-2000* (pp. 374-395). Berkeley and Los Angeles: University of California Press.
- Shakespeare, T. (2006). *Disability rights and wrongs*. New York: Routledge.
- Silver, L. M. (1999). *Remaking eden: cloning, genetic engineering and the future of human kind*. London: Phoenix Giant.
- Sparrow, R. (2007). Procreative beneficence, obligation, and eugenics. *Genomics, Society, and Policy*, 3(3), 43-59.

- Sparrow, R. (2008a). Is it 'every man's right to have babies if he wants them'? Male pregnancy and the limits of reproductive liberty. *Kennedy Institute of Ethics Journal*, 18(3), 275-299.
- Sparrow, R. (2008b). Genes, identity, and the "expressivist critique". In L. Skene & J. Thompson (Eds.), *The sorting society* (pp. 111-132). Cambridge: Cambridge University Press.
- Sparrow, R. (2010a). Liberalism and Eugenics. *Australasian Journal of Philosophy*, 89(3), 499-517. DOI: 10.1080/00048402.2010.484464.
- Sparrow, R. (2010b). Better than men? Sex and the therapy/enhancement distinction. *Kennedy Institute of Ethics Journal*, 20(2), 115-144.
- Sparrow, R. (2010c). Should human beings have sex? Sexual dimorphism and human enhancement. *American Journal of Bioethics*, 10(7), 3-12. DOI: 10.1080/15265161.2010.489409.
- Sparrow, R. (2011a). A not-so-new eugenics: Harris and Savulescu on human enhancement. *Hastings Center Report*, 41 (1), 32-42.
- Sparrow, R. (2011b). Human enhancement and sexual dimorphism. *Bioethics*, 25: Online first. DOI: 10.1111/j.1467-8519.2011.01884.x.
- Sparrow, R. (2011c). Harris, harmed states, and sexed bodies. *Journal of Medical Ethics*, 37 (5), 276-279. DOI: 10.1136/jme.2010.039982.
- Sparrow, R. (2011d). Fear of a female planet: how John Harris came to endorse eugenic social engineering. *Journal of Medical Ethics*, 38, 4-7. DOI: 10.1136/jme.2011.045021.
- Stainton, T. (2003). Identity, difference and the ethical politics of prenatal testing. *Journal of Intellectual Disability Research*, 47(7), 533-539.
- Steinbock, B. & McClamrock, R. (1994). When is birth unfair to the child? *Hastings Center Report*, 24, 15-21.
- Stock, G. (2003). *Redesigning humans: choosing our children's genes*. London: Profile Books.
- Strong, C. (2005). Harming by conceiving: a review of misconceptions and a new analysis. *Journal of Medicine and Philosophy* 30, 491-516.
- Wendell, S. (1996). *The rejected body*. New York: Routledge.
- Whittaker, P. (2007). Stem cells to gametes: how far should we go? *Human Fertility*, 10(1), 1-5.

¹ In fact, I am somewhat cynical about the possibilities offered by PGD for human enhancement as well. The more we know about genetics the less likely it seems that we will actually be able to achieve significant changes in individuals' capacities through genes that we will be capable of selecting. The ethical debate is well in advance of the science. Nevertheless, given that this debate is already taking place, it is worth thinking through its implications for regulation. Even if the prospect of meaningful genetic human enhancement never eventuates we may gain insights that will be relevant to other dilemmas that do arise.

² These decisions may, of course, affect the children's parents and third parties. However, for reasons I explore below, plausible accounts of the ethics of genetic selection emphasise the welfare of children rather than the interests of parents or third parties.

³ However see <http://www.hedweb.com/> for a dramatic illustration of the philosophical adage that one author's *reductio* is another authors' brave argument.

⁴ In practice, of course, the obsessive behaviours generated by obsessive-compulsive disorder tend to prevent people from realising their other goals. The philosophical point – that satisfaction of preferences *per se* does not seem to make a life go better – however stands.

⁵ Although, as noted above, the "environmental analogy" suggests that a concern for welfare more generally may argue against allowing parents to deliberately choose to bring into existence children with disabilities.