The powerful have many ways already ready at hand to oppress the powerless. It is hard to see how they need the project of moral bioenhancement to exercise their power. It is precisely the kind of oppression that Sparrow fears which is the target of our concerns: how could we use knowledge of the nature of the human animal to prevent the kind of oppression that already has occurred with relentless frequency and in atrocious magnitude? History has not been rosy (Glover 2001). With the exponentially increasing power of technology together with globalization, the tendency of humans to oppress and harm each other reaches critical mass. More than ever, we require a project of moral enhancement using our knowledge from medicine and science in general.

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4.1

Primary Topic Article

Ethics, Eugenics, and Politics

Robert Sparrow

Introduction

Philosophers are often accused of having their heads in the clouds. The sight of bioethicists earnestly discussing the ethics of human enhancement is unlikely to disillusion anyone.[1] The ethics of human enhancement is perhaps the hottest topic in applied ethics and bioethics today. While this debate extends to include the ethics of enhancement using pharmaceuticals and biomedical implants, the core of the enhancement debate is discussion about the ethics of the 'new' eugenics—the project of enhancing future human beings using recombinant DNA technology, cloning, and preimplantation genetic diagnosis (PGD).

For most people outside the circles of professional philosophy and bioethics, talk about human enhancement—let alone about 'eugenics'—conjures up visions of Nazi scientists and other racists making nonsensical claims about Aryan supremacy. It therefore typically comes as a great surprise to people to learn that not only is there a serious discussion of human enhancement going on in these disciplines but that the majority of philosophers and bioethicists writing about human enhancement today support it.

Obviously, very few—if any—of the philosophers and bioethicists writing about human enhancement have any sympathy for National Socialism. The contemporary debate about enhancement is therefore premised on the idea that it is possible to describe and defend a 'new' morally defensible—or perhaps even praiseworthy—eugenics that is distinct from and will not lead to the 'old', bad, Nazi, and Fabian eugenics. While the precise details of what distinguishes this 'new eugenics' from the 'old' remain controversial (Kitcher 1996; Wikler 1999), two features may plausibly be taken to be characteristic of the new eugenics: first, the new eugenicists are concerned with the welfare of

[1] Major figures in the debate about human enhancement have discussed the ethics of the pursuit of 'radio-telepathy' (Silver 1999: 278–80), of introducing artificial chromosomes into the human genome in order to allow future individuals to choose whether and when to turn on and off particular genes (Stock 2003), and of genetically modifying human beings so that they are more 'moral' (Persson and Savulescu 2008). It is therefore hard to avoid the impression that this debate is at least somewhat fantastic.

individuals rather than with the health or welfare of populations such as 'nations', 'races', or 'the species'; second, an insistence that the human rights of parents (and children) must not be infringed by the pursuit of eugenic goals (Buchanan 1996: 18–19; Wikler 1999; Agar 2004: 3–16).

In this chapter I want to suggest that the debate about human enhancement has, for the most part, taken place in a dangerously rarefied sphere and has neglected important political realities. While on paper it may be possible to sketch out visions of a world in which the pursuit of genetic enhancement of human beings does not lead to a renewed interest in racial hygiene and widespread violations of human rights, the political assumptions one must make in order to hold that this is possible in the real world are—I will argue—excessively optimistic. In reality, the pursuit of human enhancement is all too likely to lead us back to something that looks very much like the old eugenics wherein the state is, as a matter of routine, licensing who is allowed to have children and what sort of children they are allowed to have, and thus infringing the reproductive liberty of parents. Similarly, the notion that states will confine the use of technologies of genetic enhancement to the promotion of the welfare of those who are 'enhanced' and will resist the temptation to engineer some for the benefits of others also relies on a number of dubious assumptions about the political cultures of the societies in which genetic technologies are likely to be used.

This chapter will therefore sketch a political critique of recent arguments for human enhancement. I will argue that the intellectual distance between the old and the new eugenics is much smaller than contemporary advocates of human enhancement acknowledge. I will also suggest that in the absence of a naive faith in the resilience of liberal democratic political cultures there is a very real danger that genetic technologies will be used for social engineering and not just for the benefit of individuals. A more realistic politics should lead us to be much more cautious about defending the 'rights' of parents to enhance their children. This, in turn, has implications for the ethics of advocating human enhancement in the philosophical literature. At the very least, future discussions of the ethics of enhancement should pay much more attention to the political preconditions and presuppositions of claims about any putative moral obligation to enhance future human beings.

Technologies of genetic enhancement

The theoretical possibility of altering human genetics has existed since the first genetically modified bacteria were created in 1973 or perhaps even since Hermann Muller showed that it was possible to induce mutations in fruit flies in the late 1920s.[2] Certainly science fiction has featured 'enhanced', genetically modified, human beings from the late 1930s onwards.[3] However, recombinant DNA technology is still not reliable enough to use to modify human beings in any except the direst medical emergency. Moreover,

[2] See Carlson (1981). Muller himself wrote extensively about the implications of his work for the project of improving society through genetic manipulation. My thanks to Russell Blackford for suggesting the importance of Muller in this context.

[3] See, for instance, Wylie (1930). My thanks to Russell Blackford for directing me to this source.

demonstrating that any technology that involves manipulating human embryos *in vitro* is safe is extremely difficult given that ideally one would want to wait until a large number of people who had been modified *in vitro* had lived a full lifespan before venturing this assessment.[4] Thus it would be a brave parent indeed who set out to genetically modify their child.

Perhaps because of this, more recent discussions of enhancement have concentrated on the idea that it might become possible to enhance future human beings by using PGD. The Human Genome Project holds out the hope that we might come to learn which genes or combinations of genes are associated with desirable phenotypes. If we discover reliable associations then we might be able to improve the life prospects of future human beings by selecting embryos with genes for 'above species-typical' capacities. The power of PGD as an enhancement technology will itself be greatly magnified if—as recent results using human stem cells suggest—it becomes possible to derive ova from induced pluripotent stem cells. This would allow couples to overcome the limit on the number of embryos that they can create and choose amongst, which is currently imposed by the small number of ova that can be gathered in each cycle of IVF. Finally, were it to become possible, human cloning via somatic cell nuclear transfer would be a powerful technology of human enhancement in so far as it would allow us to bring people into the world with a known genotype.

A not-so-new eugenics?

Defenders of human enhancement may be arguing (1) that parents should be permitted to enhance their children or (2) that they are morally obligated to do so. Obviously, the second position includes and is significantly stronger than the first. However, a central question in thinking about the politics of human enhancement is whether the first position inevitably slides into the second. I will consider this matter below.

The second position also admits of at least two variations. Those arguing that there is an obligation to enhance may be arguing: a) that there is an obligation to provide particular enhancements or enhancements up to some threshold; or, b) that parents are obligated to provide all available enhancements so as to have 'the best children possible'.

The latter, stronger, claim plays a peculiar role in the contemporary debate about enhancement. One of the main figures in the enhancement debate, Julian Savulescu (2001a; 2005; 2008), has advanced this claim with particular enthusiasm and has been echoed in this by his various co-authors. John Harris (2007) also appears to be committed to this claim, as do some of *his* co-authors (Chan and Harris 2007). If the relevant metric by which to determine the 'best' child is the child's expected welfare—or

[4] In practice, medical researchers have proved surprisingly willing to trial reproductive technologies that must essentially remain experimental until a whole generation has passed. If one holds that individuals cannot be harmed by actions that bring them into existence, then such experiments will be justifiable as long as researchers have taken all reasonable precautions to prevent children being born with lives 'not worth living'. Alternatively, if one allows the willingness to risk the welfare of the first individuals created by, for instance, IVF to set the required standard of caution then further development of reproductive technologies may not appear unethical.

perhaps the child's parents' estimation of their expected welfare—then it may appear as though the desire to conceive the 'best child' follows inevitably from parents' concern for their child's welfare or perhaps even simply from the fact that rational agents are concerned to secure the best outcome in relation to their own desires (Savulescu 2001a; Savulescu 2008). Yet the authors of what is undoubtedly the most thorough attempt by professional philosophers to think through the ethics of human enhancement to date dismiss this idea as an obvious non-starter, pointing out that, when it comes to environmental interventions into the well-being of a child, very few, if any, parents do *everything* they can to provide their child with the best possible life, as doing so would deprive them of any time or resources to dedicate to their own interests (Buchanan et al. 2000: 161–2; Glover 2006: 54). The idea that we should *maximize* our children's welfare therefore appears to derive most of its currency in the enhancement debate from the desire of advocates of enhancement to court controversy by making the strongest possible claim and the fact that this claim then serves as a convenient stalking horse for critics of human enhancement.

I will begin by discussing the policy implications of the stronger case for human enhancement, that parents are morally obligated to enhance their children. As I have recently argued at length in the *Hastings Center Report*, there is a significant tension between the claim that parents are morally obligated to enhance their children and the claim that they should never be coerced to do so, especially where the first claim is founded in a maximizing, consequentialist, moral philosophy (Sparrow 2011a). Because my interest here is in the politics of the new eugenics, I will be mainly concerned with the question as to what sorts of *means* might be justified to ensure that parents live up to their obligations to 'enhance'. However, because our assessment of the ethics of means is inevitably and properly influenced by the ends to which they are directed, I will quickly note that the ends advocated by at least some leading proponents of the new eugenics are much less attractive than the literature generally acknowledges.

The claim that we are morally obligated to have the 'best child possible' more-or-less immediately has a number of startling implications.

First, as 'best' is a maximizing notion, in any given environment there will only be one 'best genome'. It would therefore appear that all the parents sharing an environment should aspire to bring into existence a child produced by cloning from the same, 'best', embryo. It also follows that parents do something wrong if they choose to reproduce naturally or even choose one of their own embryos after PGD rather than a clone of an embryo with a better genome. There are very few couples who could plausibly claim that even their best child was the 'best possible'.[5]

Second, in so far as our only concern is the expected welfare of the child and in the absence of the belief that the possession of normal human capacities marks out a morally significant point on the spectrum of possible genomes, parents will be morally obligated to shape their children to suit their expected social environment as much as their physical environment. Being born with the 'wrong' skin colour will severely reduce a child's life prospects in a racist society; thus parents will have reason to ensure that their child is born with local marks of beauty and privilege (Sparrow 2007). Advocates of *enhancement* can hardly object that this would involve the use of medical technology to modify or select against a normal human trait. Arguing that parental obligations are properly responsive to concerns about what sort of society we wish to live in—for instance, by suggesting that parents should not reinforce injustice through their eugenic choices—undercuts the distinction between the old and the new eugenics by revealing the new eugenics also to be concerned with the character of the nation.

[5] In a recent discussion of procreative beneficence, Savulescu and Kahane (2009) limit the force of the putative obligation of procreative beneficence to choosing the best child from amongst the parents' possible biological children. However, they provide no justification for this qualification.

Third, as I have argued at length elsewhere, it appears that we should have a strong preference in relation to the sex of our children (Sparrow 2010a; Sparrow 2010c). The presence or absence of a Y-chromosome will have a much greater impact on the shape of a child's life than the vast majority of the genes that bioethicists have been concerned about in the enhancement debates. If we want our child to have the best prospects then we will need to decide whether they are more likely to have a better life if they are born male or female and then choose their sex accordingly (Sparrow 2011b).

Together, these observations imply that in societies wherein wealth and social power are associated with being white, male, and heterosexual, for example, parents who wish to have the 'best child possible' should choose to bring into existence only good-looking, heterosexual, white men (indeed, the first observation suggests that they should all procure a clone of the same 'perfect' child) (Sparrow 2007).

The more plausible claim that parents are obligated to enhance their children so that they achieve some threshold level of well-being need not have these problematic—some would say, repugnant—implications. The required threshold might be set at such a level as to allow that women (or men) or racial minorities may be judged to have sufficient expected well-being such that parents have no obligation to avoid bringing members of these groups into existence. Yet, equally well, any threshold account *may* have the consequence that members of minorities in unjust societies will not meet the threshold. Indeed, it seems likely that this will usually be the case for some minorities. Moreover, accounts that admit an obligation to enhance up to a threshold confront a serious difficulty in explaining why the obligation to improve our children's welfare should lapse once the particular threshold they advocate has been reached. It is for this reason that Harris and Savulescu argue that parents should maximize their children's welfare.

Already, then, we see how the real world of power and privilege impacts on arguments about enhancement so as to bring them to conclusions that are much more like those of the old eugenics than contemporary advocates of enhancement advertise. However, the small distance between the new eugenics and the old only really becomes apparent when we turn to consider the question of what sort of means would be appropriate for the state to adopt once we grant the existence of reasons for parents to have the best child possible.

By definition, 'enhancements' are good for those who receive them (Harris 2007). When we are considering alterations to the capacities of existing adults, it makes good sense to leave it up to individuals to decide whether particular changes to their capacities would be enhancements or not. However, as the technologies to modify the human genome require the manipulation of human life at the embryonic stage, the new eugenics involves shaping *future* persons. This has—at least—two important implications. First,

it suggests that we must exercise significant caution in determining what sorts of changes might count as enhancements to future persons. Only changes that could be expected to improve an individual's chances of success in pursuit of a wide variety of different life plans—or that could be argued to increase well-being according to some objective measure independent of individuals' desires—can unequivocally be classed as enhancements (Agar 1998; Dekker 2009). Second—and more importantly for the purposes of the current investigation—it establishes a prima facie case that the state should take an interest in parental decisions about enhancement. These decisions do not only—or even primarily—involve the interests of parents but also the interests of future citizens. And, in modern societies at least, the state is the organization that we have empowered to protect the interests of those who cannot currently protect their own interests, including future citizens. Thus, for instance, when it comes to the welfare of children, we do not typically grant that parents have unlimited authority in the matter. Where parents are wilfully and seriously neglectful of their child's well-being, the state may intervene in order to protect the interests of the child (Feinberg 1980). Were it to become possible, then, to significantly enhance future human beings the question would immediately arise as to whether these enhancements should be made mandatory.

John Harris (2007) and Julian Savulescu (2002) have independently argued that it would be wrong to establish *laws* requiring parents to enhance their children by drawing on an essentially libertarian account of when state coercion is justified. They hold that—as John Stuart Mill argued—the state is only justified in interfering with individual liberty when an individual's actions would otherwise generate harms to others. One might think that a parent's failure to enhance their child might constitute harm sufficient to justify legislation. However, a philosophical subtlety about the nature of the technologies involved in the new eugenics renders this unclear. As Harris and Savulescu point out, selection of embryos for above species-typical capacities using PGD and (possibly) genetic modification of embryos using recombinant DNA technology both involve choosing *which* individuals will come into existence rather than altering the well-being of a determinate individual.[6] In Parfit's terminology, these are non-person-affecting decisions (Parfit 1984). What this means is that the people who are born as a result of these decisions are arguably unable to hold that they have been harmed (or benefited) by them. The counterfactual that normally underpins attributions of harming or benefiting (what would their well-being be if the decision had been made differently?) fails in cases like this because had the decision been made differently they would not have existed at all (instead, another person would have existed in their place). Thus, while we may still have consequentialist reasons to enhance children based on a concern for the total amount of well-being in the world, if this analysis is correct then the failure to enhance children will not harm them and so legislation requiring enhancement will not be justified—as long as we adopt a Millian account of the limits of the appropriate use of state power.

[6] The later claim, about genetic modification, is controversial and depends upon the thesis that genetic modification of the early-stage human embryo would alter the identity and not just the traits of the person who is born as a result (Zohar 1991).

In a moment, I will query whether we can rely upon the assumption that legislators will abide by the strict restrictions that Mill placed on the exercise of their power.[7] However, first, I want to note that even if parents' decisions about enhancement cannot harm their children, they may harm other existing citizens and that these harms might justify state intervention. In any society that maintains a system of redistributive taxation, bringing children into the world who will have a lower standard of well-being by virtue of not being enhanced will impose avoidable costs on other citizens, whose tax dollars will flow towards these new poor. Even in the absence of such redistributive flows, to the extent that social inequality impacts negatively on the quality of life of all members of the society, parents who allow their children to be born with lower life prospects than other citizens will harm their compatriots.

Of course, whether these harms would be sufficient to justify state intervention is unclear: it would depend upon a myriad of details about particular cases. However, a more important question is why we should expect the state to refrain from regulating parents' choices around enhancement even granted that these do not harm existing persons.

Let me begin by noting that there is at least one important set of cases where we already allow that it is appropriate for the state to legislate in order to prevent non-person-affecting consequences: pollution of the environment. As Parfit observed, some forms of pollution may generate negative impacts mainly for future generations. If the emission of the pollution also alters (by subtly affecting who has children with whom and at what time) which people are born, then these impacts will not be person-affecting. Yet it seems entirely fair to point to the impact of the pollution on the welfare of the future population as justification as to why the state should legislate to prevent such pollution.

It is also worth observing that the consequentialist arguments that Harris and Savulescu provide for embracing enhancement provide little support for the idea that we should always accept a Millian restriction on the limits of the proper exercise of the power of the state in the context of non-person-affecting harms. If non-person-affecting enhancements do not harm anyone, neither do they benefit anyone. Thus if we are going to have reason to pursue them this must derive from their contribution to the total welfare existing (in the world? in our society?) in the future. And once we adopt a consequentialist perspective then we should respect rights and liberty only in so far as such respect leads to better consequences than the alternative. If enhancing future individuals would make a sufficiently large difference to total welfare then the state *would*—on consequentialist grounds, at least—be justified in legislating to ensure that parents enhance their children (Sparrow 2011a).

Regardless of whether the exercise of state power is justified, though, the new eugenics presumes that it will not be used. This relies on a number of assumptions about the

[7] Elsewhere, I have argued that there are various measures short of coercion that the state or, indeed, groups of concerned citizens might adopt to try to encourage parents to have 'better' babies (Sparrow 2011a). While these measures would not threaten the reproductive liberty of parents, the existence of public campaigns, whether organized by the state or by private individuals, to encourage parents to have certain sorts of children should be a cause of extreme discomfort to those aware of the history of eugenics.

political cultures of the societies in which human enhancement may become possible, several of which seem to be extremely dubious. These assumptions also play a critical role in the arguments surrounding less ambitious endorsements of the new eugenics. I will therefore return to them after first discussing the philosophical logic of 'liberal eugenics'.

The logic of liberal eugenics

Not every writer discussing the ethics of human enhancement embraces the idea that we are morally obligated to enhance our children once it becomes possible to do so. A number of authors have argued for the weaker—and more plausible—position that it would be morally permissible for parents to use genetic technology to enhance their children (Robertson 1994; Buchanan et al. 2000; Agar 2004). These authors emphasize the freedom of parents to make decisions about whether or not to enhance their children and what sorts of enhancements to pursue; for this reason their position has come to be known as 'liberal eugenics'.[8] However, because parental genetic interventions might severely constrain the life options available to their children, advocates of liberal eugenics must also be concerned with the liberty of children.

In another context, I have argued that both a concern for the liberty of parents and a concern for the liberty of future citizens ground powerful arguments for a strong role for the state in any future wherein enhancement is possible (Sparrow 2010b). In order to avoid collective action problems arising out of the free choices of parents and, in particular, to avoid the prospect of a 'genetic rat race' wherein parents must enhance their children in order to avoid them being disadvantaged by other parents' pursuit of positional goods for *their* children, it may be necessary for the state to regulate access to enhancements. And in order to prevent parents from locking their children into the pursuit of the parents' chosen way of life through genetic manipulation, the state must regulate to defend the future liberty of children (Feinberg 1980; Davis 2001; Agar 2004; Fox 2007).

For these reasons, a plausible liberal eugenics must include a very strong role for the state in regulating genetic interventions—a result that further problematizes the distinction between the new and the old eugenics. Nothing I have said so far suggests that a liberal eugenics need lead to egregious human rights violations of the sorts associated with the old eugenics. However, even in the absence of such violations, the pervasive and routine involvement of the state in deciding what sort of people will be born is profoundly problematic for at least three reasons.

First, it would involve widespread violation of 'reproductive liberty'. As a number of authors have argued, the intimate nature of human reproduction, and the centrality

[8] Because, as I discussed above, advocates of an obligation to enhance typically resile from the conclusion that the state should legislate to ensure that parents meet this obligation, they may also be described as defending a version of 'liberal eugenics' although, as I have argued, in this case the connection with liberalism is merely contingent. To the extent that advocates of an obligation to enhance wish to insist upon retaining a liberal institutional framework for regulating genetic interventions, the criticisms developed in this section will also apply to the arguments discussed above.

of decisions about reproduction to individuals' life plans establishes a strong presumption that people should be allowed to make these decisions themselves (Dworkin 1993; Brock 1994; Robertson 1994). It may appear odd to invoke a concern for reproductive liberty in the course of a critique of human enhancement given that advocates of enhancement themselves typically highlight the importance of reproductive liberty in order to motivate the idea that parents have a right to determine the genetics of their children (Savulescu 1999; Savulescu 2001a; Harris 2004). Yet if a liberal eugenics is to promote both the liberty of parents and the liberty of future citizens, it must both claim the right to interfere with parental choices *and* routinely interfere with them in order to prevent worse outcomes for the liberty of both children and parents.

Second, if the state is going to take on this role, it must draw upon a substantive and therefore controversial account of the range of plausible conceptions of the good life in order to do so. There is no way to determine whether a particular genetic intervention reduces or increases the modified individual's prospects of achieving a good life for themselves that does not—whether explicitly or implicitly—make reference to evaluations about what sorts of lives might reasonably be held to be good. Similarly, if less obviously, deciding whether or not to restrict individual choice in order to prevent a destructive genetic rat race requires a judgement as to whether the benefit that parents might pursue for their children is a positional or an absolute good, which cannot be determined except by reference to an account of what sorts of things contribute to an individual's well-being. Thus not only will the state be interfering in parents' reproductive liberty but it will be doing so in the service of a controversial account of what will improve the lives of its citizens.

Third, regulation to avoid collective action problems—typically to preserve public goods—requires paying attention to the aggregate consequences of uncoordinated individual decisions (Brock 2005). That is to say, the state will need to be concerned with the character of the society or nation that might be produced if parents make various eugenic choices. This significantly undercuts the idea that the new eugenics can be distinguished from the old by virtue of its focus on the welfare of individuals rather than collectivities. Even if the motivation for this concern remains the welfare of the individuals within the society, this is not sufficient to distinguish a liberal eugenic policy from more obviously problematic eugenic projects such as, for instance, that described in Huxley's *Brave New World*.

The argument of this section has been concerned with the philosophical logic of a liberal eugenics. Again, we have seen how the fact that people live in societies and the ways in which their decisions may affect each other—in other words, politics—transforms the new eugenics into something much closer to the old. Yet, as I intimated above, the real worry about the new eugenics is not its philosophical logic but rather its cultural or political logic.

Politics and eugenics

The writers I have been discussing believe that the pursuit of human enhancement would be justified if it respected the human rights of individuals and if it were dedicated

to improving the welfare of enhanced individuals. Yet a crucial question, which is largely neglected in the literature on the new eugenics, is how likely it is that these two conditions would be realized in practice. The last time nations tried to use their knowledge of genetics to improve human beings was a disaster. What reasons do we have for thinking it would be any different if we took up this project now?

There are strong prima facie grounds for concern about the interaction between politics and technologies of genetic selection, especially in the light of the historical experience of eugenics. The project of genetic human enhancement risks encouraging elitism, discrimination, and social engineering.

Genetic selection risks encouraging elitism and discrimination because of the cultural and political slippage between claims about genes and claims about those who possess them. A number of authors, writing in the debate about the 'expressivist' critique of prenatal testing, have argued that there is no *necessary* connection between the belief that it would be better to be born with (or without) particular genes and the belief that those people born with particular genes are inferior persons (Buchanan et al. 2000: 276–81; Steinbock 2000). However, while the distinction between an evaluation of the impact of genes on individuals' welfare and an evaluation of their implications for their worth may be plausible at the level of individual belief, there are powerful social forces in most, if not all, contemporary societies that make it difficult to sustain this distinction at the level of social beliefs. In divided and inegalitarian societies, those at the top of the social heap have a strong interest in promoting the idea that the current social hierarchy is natural. The same research that has sparked the contemporary philosophical interest in genetics has also contributed to an increasing geneticization of human life, which in turn encourages the idea that genetics is destiny. If people with better genes have 'better lives', then it is a small step indeed to the thought that they are better people. The fact that leading philosophers (Harris 1998; Savulescu 2005) have described enhanced human beings as a 'new breed', as though there would be a qualitative difference between enhanced and unenhanced human beings, is a telling indication of just how tempting is this slippage.

There are a number of ways in which the development of the power to shape the genetics of future human beings is likely to encourage the use of this power to achieve social goals and not just to advance the welfare of enhanced individuals. As I observed above, once technologies of genetic human enhancement become available, states will not be able to avoid paying attention to their aggregate impacts if they wish to avoid various negative outcomes. Yet as soon as states begin to regulate parental choices with an eye to their social consequences it will be extremely tempting to focus directly on what sort of society they wish to govern and to engineer people to achieve this goal. It is already the case that an important reason why some governments subsidize access to prenatal testing in order to allow parents to terminate the pregnancy if they receive a diagnosis of a condition associated with disability is to reduce the social costs associated with caring for people with disabilities. There is also, I think, more 'folk' support for such social engineering than the debate about human enhancement typically acknowledges: I am repeatedly surprised by how many of my students studying genetics or bioethics advance arguments about the evolution or the progress of the species in support of human enhancement. The role played by consequentialist reasoning in the arguments

for human enhancement is significant here both because of the focus of consequentialism on total social welfare rather than respect for individual rights and also because of the historical association between utilitarianism and utopian programmes of social engineering.

On the other hand, there are two reasons that I can see why one might hold that the future of eugenic selection will be brighter than its past. First, one might hold that the new eugenics is based upon superior science to the old. Second, one might hold that contemporary societies have deeper and more resilient cultures of respect for human rights than those that violated human rights in the service of eugenic goals in the past.

There is an obvious sense in which the first of these claims is clearly correct. Human genetics has advanced in leaps and bounds since the turn of the twentieth century. More importantly, in some circles at least, the vital lesson that genotype only produces phenotype in a given environment has been well and truly learnt.

However, again, there is a large gap between the claim about scientific progress and a claim about the extent to which this progress is likely to be reflected in politics. Many popular discussions of genetics continue to be bedevilled by a failure to distinguish between biological phenomena that might plausibly be explained with reference to genes and social phenomena that may not. Thus, the media flock to report claims about a 'gay gene', despite the fact that while there might be a gene for being attracted to people of the same sex, being gay is a social identity that can shift with context and circumstance and is thus incapable of being explained by biology (not every individual who has sex with people of the same sex either identifies themselves as gay or is identified by others as gay). Similarly, the claim that there is a genetics of aggression is increasingly popular even though whether behaviour is classified as aggressive or not will depend upon the social context (on the rugby field or in the philosophy seminar) in which it takes place. Indeed, this confusion between social and biological categories seems even to infect some of Savulescu's work, where he has argued for eugenic selection against genes 'for criminality' (Savulescu 2001b; Savulescu et al. 2006). Yet criminals share nothing in common other than that their activities have been ruled by the state to be illegal (legislators can create or abolish criminals with the stroke of a pen!). Thus, while there may well be genes that make various behaviours (assuming that these can be suitably described without reference to social classifications) more or less likely, there cannot possibly be a gene that determines whether or not someone is 'a criminal'. If science journalists and bioethicists can make these sorts of errors, there is little cause to hope that the broader population will not seize upon genetic explanations for social phenomena and then demand that politicians adopt genetic solution to social problems. In this context, it is also worth noting that in many supposedly advanced industrial societies the level of scientific literacy in the broader community is woefully low.

It is the second of the two claims introduced above—that contemporary societies are more deeply committed to respecting individual freedom than those that embraced the old eugenics—that, I believe, mostly explains philosophers' willingness to reconsider the possibility of genetic selection. Ideas of moral and intellectual progress are deeply entrenched in the political cultures of 'Western' nations as well as in the self-understanding of the discipline of moral philosophy. It is therefore extremely tempting for intellectuals in these traditions to believe that the extensive violations of

human rights that occurred when eugenic ideas were taken up in the early 1900s could not happen again. Unfortunately, this belief reflects both a selective understanding of historical politics and a rose-tinted view of contemporary political circumstances. The nations that embraced eugenics in the 1920s and 1930s included societies with strong democratic traditions and social forces—in the form of organized labour movements—that were better placed to resist the systematic infringement of human rights than the equivalent organizations today. Meanwhile, in the same period as the debate about human enhancement has been taking place, supposedly liberal societies have embraced extended detention without trial, the organized kidnap, secret imprisonment and torture of enemies of the state, and routine and extensive surveillance of the conversations and correspondence of their citizens, in response to a 'terrorist' threat that has been exaggerated out of all reasonable proportion. It has also seen a reinvigoration of racist and xenophobic politics around the globe and the emergence of neofascist and extremist political parties as significant political forces in a number of European nations.

The idea that an authoritarian government could not come to power in the countries in which the debate about the new eugenics is taking place is a comfortable fantasy but a fantasy all the same.[9] And if such a government should come to power when technologies of human enhancement have been developed and come to be socially accepted, it is naive to believe that it would not put them to use to entrench its power at the expense of the human rights of those deemed to be 'unfit' or a threat to the unity of the social body.

The political responsibilities of bioethicists

I have been arguing that the new eugenics is all too likely to collapse into a morally repugnant 'old eugenics'. There is an obvious response available to the defenders of the new eugenics at this point: they may simply insist that should this collapse occur then they would not support the pursuit of human enhancement. Is it not wrong for me to criticize them for the nature of a position they do not support?

It would indeed be if there was little or no connection between the new eugenics and the old. However, my argument above is that the attempt to realize the new eugenics is likely to lead to repugnant consequences. As a vision of how actual societies might respond to the development of genetic technologies of human enhancement, the new eugenics is extremely implausible. Moreover, the same social circumstances and forces that seem likely to transform the new eugenics into the old in the future also problematize the ethics of advocating human enhancement today. Whether they intend to be or not—and I presume they do not—advocates of the new eugenics are contributing to intellectual currents that make an old-style eugenics more likely. When Harris and Savulescu write about the coming 'new breed' of enhanced human beings they unwittingly reinforce racist and elitist strands of thought that are already all too present

[9] It is also worth pointing out that it is naive to think that when/if technologies of genetic human enhancement become available they will only be adopted in societies that might currently be described as liberal or democratic. Both China and Singapore, for instance, are technologically advanced societies wherein the state has a history of concerted interest in eugenics.

in our contemporary social milieu. Consider another illuminating example, the cover illustrations of three of the most influential recent books in the debate about human enhancement. The 2007 hardcover version of John Harris's *Enhancing Evolution* features an image that twice references fascist iconography: a human arm in a blue uniform flexing its biceps in front of the expanding rays from a rising sun (Harris 2007). The cover of Nick Agar's *Liberal Eugenics* consists in an image of the muscled torsos of three men marching in unison, presumably into the future (Agar 2004). Meanwhile, Savulescu and Bostrom's edited collection, *Human Enhancement*, displays the silhouettes of three groups of six hyper-muscled men in various bodybuilding poses that are also iconic poses of martial victory (Savulescu and Bostrom 2009). Thus despite these philosophers' advocating various versions of an essentially liberal eugenics, the presentation of their work in the public sphere also functions to advance ideas about the nature of enhancement and genetic superiority that are closely associated with the old eugenics.[10] Importantly, the political resonances of contemporary claims about eugenics are entirely predictable. It is therefore not unjust to expect that philosophers thinking about the new eugenics should consider how their work is likely to be received and how it will contribute to the future development and application of technologies of human enhancement.

Conclusion

The ethics of human enhancement has now been much discussed by many different philosophers and bioethicists. However, the politics of human enhancement, both in terms of the political assumptions that underpin the ethical debate and the political consequences of this ethical debate itself have been relatively neglected. I hope I have shown here that paying attention to these issues reveals the 'new eugenics' to be much more problematic than the bioethical literature currently acknowledges and calls into question the wisdom of the enthusiasm with which some philosophers have advocated human enhancement in the public sphere. If we wish to avoid the nightmare of genetic technologies being used for social engineering in the twenty-first century in violation of important human rights, it will be vital for future investigations of the ethics of human enhancement to address its politics with equal rigour.[11]

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[10] Given how the publishing industry works, these images may well have been chosen *against* the wishes of the authors by publishers intent upon generating sales for the works by highlighting the controversy they court. This does not, however, alter the fact of their semiotics.

[11] My thanks to Catherine Mills for reading early drafts of this manuscript.

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