Should Human Beings Have Sex? Sexual Dimorphism and Human Enhancement

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Abstract

Since the first sex reassignment operations were performed, individual sex has come to be, to some extent at least, a technological artefact. The existence of sperm sorting technology, and of prenatal determination of foetal sex via ultrasound along with the option of termination, means that we now have the power to choose the sex of our children. An influential contemporary line of thought about medical ethics suggests that we should use technology to serve the welfare of individuals and to remove limitations on the opportunities available to them. I argue that, if these are our goals, we may do well to move towards a "post sex" humanity. Until we have the technology to produce genuine hermaphrodites, the most efficient way to do this is to use sex selection technology to ensure that only girl children are born. There are significant restrictions on the opportunities available to men, around gestation, childbirth, and breast-feeding, which will be extremely difficult to overcome via social or technological mechanisms for the foreseeable future. Women also have longer life expectancies than men. Girl babies therefore have a significantly more "open" future than boy babies. Resisting the conclusion that we should ensure that all children are born the same sex will require insisting that sexual difference is natural to human beings and that we should not use technology to reshape humanity beyond certain natural limits. The real concern of my paper, then, is the moral significance of the idea of a normal human body in modern medicine.

Keywords

Sex; ethics; human enhancement; sex selection; PGD; intersex conditions

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INTRODUCTION

Until recently, we could more or less take it for granted that the human species was made up of men and women and that an individual's sex is fixed by fate at conception.[1] The existence of sperm sorting technology, preimplantation genetic diagnosis (PGD), and of determination of foetal sex via ultrasound, means that we now have the power to choose the sex of our children. As I outline in Section I, an influential contemporary line of thought about medical ethics suggests that we should use medical technology to serve the welfare of individuals and to remove limitations on the opportunities available to them, without regard to whether, in doing so, we are involved in therapy or enhancement. In Section II, I argue that, *if these are our goals*, we may do well to move towards a 'post sex' humanity. Until we have the technology to produce hermaphrodites, the most efficient way to do this is to use sex selection technology to ensure that only girl children are born. There are significant restrictions on the opportunities available to men, around gestation, childbirth, and breast-feeding, which will be extremely difficult to overcome for the foreseeable future. Women also have longer life expectancies than men. Girl babies therefore have a significantly more open future than boy babies. In Section III of the paper, I survey various possible objections to sex selection in favour of girls and argue that none of them mitigate against the conclusion that parents are obligated to have girl babies. In Section IV, I argue that even in the absence of an obligation to choose the 'best' child, we cannot justify choosing male children without making reference to the idea of 'normal human capacities'. Yet the idea that we are obligated to have only children of one sex is perilously close to a *reductio ad absurdum* of the argument for human enhancement. In Section V, therefore, I suggest that resisting the conclusion that we should ensure that all children are born the same sex will require insisting that sexual difference is natural to human beings and that we should not use technology to reshape humanity beyond certain natural limits. The ultimate concern of my paper, then, is the moral significance of the idea of a 'normal human body' in modern medicine.

I. BUILDING BETTER BABIES: THE CASE FOR ENHANCEMENT

The question of whether it is better to have sons rather than daughters appears at first atavistic; a depressing reminder of a sexism that we might hope that we had left behind. However, I want to argue that an important current in contemporary bioethical thought compels us to reconsider it.

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[1] Since the early nineteen fifties, however, when the first sex change operations were performed, individual sex has come to be, to some extent at least, a technological artefact (Meyerowitz 2002). For the small fraction of individuals born 'intersex', sex has always been a socially constructed imperative (Fausto-Sterling 2000).

As our power to modify the capacities of human bodies through medical (and other) technologies has grown ever greater, so too has the controversy about how we should use this power and whether we should recognise any natural limits in doing so. In particular, a wide range of applications of medical technology now seem to involve more than just restoring sick bodies to their natural health and instead involve enhancing the capacities of already healthy individuals (The President's Council on Bioethics 2003; Roco and Bainbridge 2002). Anabolic steroids, cosmetic surgery, oral contraception, vaccination, and human growth hormone are all innovations that have been used to try to make individuals 'better than well' (Elliott 2003). Perhaps more importantly, technologies of prenatal diagnosis and, in particular, PGD, combined with our ever-increasing knowledge of human genetics, allow prospective parents to select in favour of children with desired traits as well and as much as against children with undesired traits (Kitcher 1996).

In the context of debates about the ethics of enhancement, a number of authors now argue that the capacities of a 'normal' human body provide us with little guidance about the capacities that people should have in the future (Glover 2006; Harris 2007; Savulescu 2001; Agar 2004; Silver 1999; Stock 2003; Green 2007). The arguments that speak in favour of applying medical technology to eliminate ill-health also speak in favour of using it to enhance the capacities of human beings (Harris 1993). There seems to be no reason why the meliorist ambitions of medicine should end at what is currently considered to be normal. Indeed, the 'normal' – at least in the sense of average – capacities of the human body today are *already* partially the product of existing technologies, such as vaccination, clothing, footwear, dental care, and diet, which further weakens the intuition that what is currently considered to be normal should serve as a limit to restrict the applications of new technologies (Harris 2007; Agar 2004). Instead of being concerned to achieve the normal, we should simply use medical (and other) technologies to improve the lives of human beings. Eventually, this will mean bringing children into the world with capacities above the current 'norm'.

Importantly, the idea that parents should act so as to improve the life prospects of their children is already internal to our conception of what being a good parent consists in (Harris 2007; Savulescu 2001). Parents often take special care to educate their children, buy them piano lessons, or nurture their talents in any area in which they excel. When they do so, we do not criticise them for trying to 'enhance' their children but instead praise them for their concern for their child's future well-being (Agar 2004; Buchanan et al. 2000, 156–159). Yet where such efforts are successful they succeed in shaping the character (phenotype) of the child. It is difficult to explain why genetic interventions should be prohibited where environmental interventions are not, given that they have the same result (Harris 2007, 2–3).

These arguments have been taken by a number of authors to suggest that we have good reason to – and perhaps are even obligated to – have the best child possible (Savulescu 2001; Savulescu 2006; Savulescu 2005; Harris 2007; Chan and Harris 2007). We should make use of existing and future technologies to try to maximise the welfare and/or opportunities available to our children. For various reasons, set out elsewhere, I believe the claim that we have an *obligation* to *maximise* the future life prospects of children to be implausibly strong (Sparrow 2007; Buchanan et al. 2000, 161–162; Glover 2006, 54). However, for the purposes of the argument in Sections I-III, I am going to make use of the claim that we have good reasons to try to produce 'the best child possible' in order to explore the consequences of the claim that the idea of a normal human body has little role to play when it comes to choices about the capacities of future children. In Section IV, I turn to discuss the implications of my argument for weaker claims about how we should make decisions about the application of medical technologies in the absence of a normatively significant account of normal human capacities.

II. SEX SELECTION AND ENHANCEMENT

If we do have reason to have the best children possible, then we cannot avoid the question of whether a male or a female child will have a better chance in life. Considered over the whole of a human life, the sex of the child will exercise a much larger influence on its welfare, and on the opportunities available to it, than many of the other genetic variations that medicine currently concerns itself with. The impact of the child's sex on its future well-being are also well understood and reasonably predictable, at least in comparison to many other forms of genetic variation. This means that the question of which sex is better should be more tractable than many other possible decisions about the genetics of future children.

Why girls are better than boys

The ethical debate about sex selection has, almost without exception, assumed that the central question is whether parents should be permitted to choose male children. In part this has been because selection in favour of males and against females has been the predominant use of various technologies of sex selection where they have been widely adopted, as, for instance, in India and China. However, it has also been because the existence of widespread and profound institutional sexism in most societies across the world means that male children appear likely to have better life prospects and a much wider range of opportunities than female children.

Of course, whether or not we *should* take existing social prejudices into account when thinking about children's life prospects is controversial. One obvious reason to be cautious about doing so is that it seems likely to exacerbate such prejudices. Some authors have therefore suggested that we are obligated to discount the effects of prejudice when making judgements about the relative opportunities of different sorts of children; the proper response to the existence of such prejudice is to strive to overcome it via social and political campaigns rather than to reinforce it by means of eugenic interventions (Agar 2004, 151–152; Buchanan et al. 2000, 283–284; Kitcher 1996, 217–218).

In fact, it is difficult for any philosophy that accepts that parents have reasons to be concerned for the prospects of their children to justify discounting those reasons when the source of reduced prospects is bigotry. It is hard to see why the child should suffer because of the existence of another injustice and their parents' desire not to be complicit with it (Agar 2004, 155–156). The distinction between reduced opportunities due to social causes and reduced opportunities due to biological causes also requires that we can identify a set of normal human capacities that can be determined independently of social (and technological) context – precisely the idea that advocates for human enhancement reject at the very beginning the argument for non-therapeutic use of medical technology (Bostrom and Roache 2008). Strictly speaking, if our only concern is the prospects of child then we should take prevailing environmental conditions into account as much as the child's future genetics and regardless of whether they are social or 'natural'. Depending on one's other philosophical and political commitments, this may count as an argument against an obligation to

maximise life prospects or an argument in favour of fitting children to the prevailing social conditions.[2]

Regardless of our conclusions about whether we should allow the prejudice of others to influence our decisions about the life prospects of children, I believe that there are independent grounds to hold that philosophers (and parents) are mistaken in thinking that male children will always have superior life prospects. There are four arguments which together suggest that, in fact, in some societies it is now – or soon will be – better to be born a woman.[3]

First, while sexism remains pervasive, it is also true that in most, if not all, societies the extent of this sexism is being reduced. Moreover, there is some reason to hope that this trend will continue. In the not-too-distant future – hopefully – social prejudice will not prevent women having equal opportunities with men.

Second, once a basic level of health care during childbirth can be assumed, women have significantly longer life expectancies than men.[4] This means that girl children have a more 'open future' than male children, being able to pursue more projects, and also longer term projects, over the course of their lives. Depending on how we evaluate welfare, it may also mean that female children have higher expected welfare over the course of their lives.[5]

Third, there are also a number of experiences around pregnancy, childbirth, and child-rearing that are widely believed to be some of the most meaningful and important experiences possible in a human life, which are available to women and unavailable to men (Brock 1994; Robertson 1994). If we include these experiences in the list of possible human experiences that we use to compare the relative 'openness' of futures then it is clear that girl children have significantly more open futures than male children; there are opportunities available to them that are not available to male children. The existence of these opportunities also has implications for the expected welfare of girl children. Should they want to become pregnant, give birth, or breast-feed children, they will be able to satisfy these desires; should they not desire these experiences, they are no worse off. Male children who grow up wanting to become pregnant, to give birth, or to experience the close emotional

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[2] For the first of these interpretations, see Sparrow 2007, for the second, see Savulescu 2001. If parents *do* have an obligation to take social circumstances into account when choosing the best possible child, this will not open up space for choosing children of either sex: it may establish an obligation to have male children who will benefit from the existence of institutional sexism.

[3] There is, inevitably, a certain difficulty in understanding such 'cross life' comparisons, which raise the 'non-identity problem' (Parfit 1984; Brock 1995). It is not my goal here to settle the dispute about how to best interpret such claims or, indeed, whether they are possible. The argument that we are obligated to choose the best child possible presumes that such comparisons are coherent and morally significant, as indeed does any argument that we have obligations (beyond avoiding bringing into existence persons who would prefer to be dead) relating to what sort of children we should bring into the world. Later in the paper I will discuss an example which avoids the philosophical difficulties associated with the non-identity problem.

[4] In the industrialised world, women live on average roughly 3 to 7 years longer than men, with a 'health adjusted life expectancy' of 2-4 years greater than men (World Health Organisation 2009, Table 1). If the difference in male and female life expectancies is a result of social circumstances in sexist societies then this reason lapses. However, it seems likely that at least some of this difference in life-expectancy reflects differences in male and female biology that will be expressed across a wide range of environments (Institute of Medicine Committee on Understanding the Biology of Sex and Gender Differences 2001).

[5] The caveat here relates to the question as to whether we should be concerned with total welfare over a lifetime or with the average welfare per day (or some other unit of time). A longer life will likely produce a greater total welfare over the course of that life; it may or may not produce a greater average welfare. For a recent discussion of the relationship between longevity and welfare, see Walker 2007.

relationship with a child that breast-feeding makes possible, on the other hand, will be bitterly disappointed and substantially worse off.

Fourth, in comparison there are few, if any, experiences that are available to men that are not, in principle, available to women. There are a number of experiences around the sex act which are reserved for men but these are paralleled by similar experiences available to women and not to men. Apart from these, restrictions on the opportunities available to women are almost entirely the result of social discrimination or are easily overcome with existing technology. The 'natural advantage' of males, which is most often mentioned in conversations about differences between the sexes, that they are 'stronger', is irrelevant in any society which has mastered the technology of the block and tackle. It would require an extremely sophisticated technology, on the other hand, to overcome the limitations on the opportunities available to men to gestate or lactate.

Taken together, these considerations amount to a compelling case that it is better to be born a woman than a man in any society where the effects of institutional sexism have been sufficiently ameliorated. The biological advantages of being born a woman are so extensive that, even in societies where some sexism persists, women may have significantly more open futures than men. Given that the effects of institutional sexism are declining, at some stage there will be a point in time beyond which children born female will have better life prospects. Indeed we may already have reached that point today. If we have reason to have the 'best baby' then we have reason to have a girl baby!

Ultimately, of course, there is no reason to believe that the best baby will be either male or female as we now understand them. A better baby yet would have the capacities of both sexes, the physical strength of men and the life expectancy and reproductive capacities of women. In order to avoid restrictions on the opportunities available to future children the important human experiences around reproduction should be available to all persons. That is to say, human beings should be hermaphroditic.

Choosing embryos

To illustrate the claim that girl babies are better than boys and to investigate its implications, it will be useful to imagine the following hypothetical scenario:

> An anxious couple, prospective parents, who have been counselled that their child is likely to be at risk of a genetic disorder with not-too-dramatic – but nonetheless significant – consequences for any child that suffers it, have chosen to conceive multiple embryos using *in vitro* fertilisation and screen them for the condition using PGD. When they meet with their genetic counsellor to be informed of the results, they are told that they have produced two viable embryos that can be expected to be free of the disease condition. However, the counsellor also informs them that in the course of testing the diagnosing technician also became aware of other information relevant to the future life prospects of these embryos, which the medical team feels that the parents should be aware of. One of the embryos (Embryo 'B') suffers from a genetic condition that significantly reduces – by some five years – the life expectancy of those who are born with it. Moreover, this condition is associated with serious 'reproductive difficulties'. In comparison, the other embryo (Embryo 'A') will produce a child with a longer life expectancy who can be more confident of enjoying the pleasures of parenthood.
>
> The parents ask for more information about these 'reproductive difficulties' and are told that, while they are 'poorly understood', persons experiencing the reproductive

> difficulties associated with the condition often have difficulty forming close emotional bonds with their children, especially during the first two years, and are sometimes entirely unable to satisfy their desire to reproduce. However, they are reassured, most people who are born with this condition learn to live with it – and many never acknowledge any distress associated with it.
>
> The question the parents now face is: which embryo would they like to have implanted?

If this is all the information available to the parents then it seems as though they have good reason to choose Embryo A over Embryo B. Indeed, it seems that they would need to provide some justification for choosing Embryo B.

Of course, the 'genetic condition' in this scenario is 'maleness' and it seems as though the parents have good reason to choose the female child. As I will discuss further below, the intuition – if we have one at all – that it is permissible to choose Embryo B relies on the assumption that maleness is not a deficit and is, indeed, instead part of normal human variation. That is to say, it relies on the intuition that both male and female embryos are 'normal'. However, the idea that the normal capacities of human beings should be normatively significant in this way is precisely what is under threat in much contemporary bioethics.

III. RESPONSES TO OBJECTIONS

In this section I address a number of possible objections to the idea that we have an obligation to select girl children and argue that – in the absence of a normatively significant notion of normal human capacities – none of them ultimately succeed in showing that we do not have such an obligation.

Do human beings need sex?

It might be objected that the birth only of girl children would be a disaster for humanity by threatening the reproduction of the species. Until reproductive technologies become *very* advanced, both male and female gametes will be necessary to produce children, which means that there will need to be some men available.

A concern for the fate of the species often comes up in naive conversations about reproductive technology but it is simply unclear as to why parents should be concerned with anything more than the life prospects of their particular children. What, after all, is the fate of the species to any of us? Moreover, references to the needs of the 'species' should be especially controversial in the context of the contemporary debate about human enhancement, wherein advocates of enhancement typically take pains to distinguish their own concern for the welfare of *individuals* from the 'old' eugenic concern with the fate of the 'race' or 'species' (Agar 2004, 3-16; Glover 2006, 26-29; Green 2007, 7; Savulescu 2001, 424).

In any case, the survival of the species would be easily ensured even in a world in which only women were born as long as a sufficient supply of frozen sperm had been laid in stock to last until the technology to produce sperm from the somatic cells of women became available. Moreover, of course, in reality it is highly unlikely that any attempt to improve human beings by selection or genetic manipulation could jeopardise the survival of the species, simply because it is unlikely that

any such interventions would be undertaken universally.

A more serious version of this objection focuses on the possibility that, if responsible parents chose female children, a severe gender imbalance may eventually develop, rendering it difficult for heterosexual women to find a mate. Again, as long as frozen sperm (or other more esoteric reproductive technologies) were available, the absence of a mate need not threaten an individual woman's opportunity to *reproduce*. However, it might jeopardise her happiness in so far as this is linked to various psychological dispositions which produce the desire to enjoy the company of the opposite sex.

One important observation in this context is that while prospective parents might prefer that the next generation include a large number of men it may nevertheless be the case that each couple should choose a girl child. There is a collective action problem here. The public good of sexual diversity may be threatened by the private pursuit of sex-related advantage, for our offspring.

In the short term, at least, the existence of this collective action problem explains why it would be bad policy to insist that everyone should have girl children or to publicise the reasons why they should. It might even be bad public policy to *allow* people to choose the sex of their children. Collectively, the actions of parents who try to advantage their children by having daughters are likely to be self-defeating.

However, my interest is in the logic of the argument that establishes the imperative to choose a girl child rather than in the policy we should adopt in response to this argument. The existence of a collective action problem does not alter the fact that when it comes to the decision as to what sort of child to have, each couple has compelling reasons to choose a girl.

In the longer term, there is a simple 'engineering' solution to the collective action problem, which is to sever the link between happiness and desire for the company of persons of the opposite sex. If geneticists succeed in finding a 'gene' or – more realistically – a set of genes that predispose individuals towards same-sex attractions then the best baby is presumably one that is likely to grow up to be a lesbian. Alternatively, if we think of the objects of our sexual attraction as a matter of choice or as a product of our environment, girl children could simply be encouraged, or educated, to prefer the company of women. Parents who chose babies who will grow up to be lesbians need not fear that their children will suffer if other couples make the same choice. The ultimate solution to this 'problem', however, is to engineer entirely hermaphrodite human beings. If all persons were one sex, equally capable of reproducing with – and being attracted to – all other people, this would eliminate the need for some parents to choose less-than-optimal children for the sake of the common good.

Is sex good?

Flirtation, romance, love, fornication, and orgasm are all arguably good things. There are undoubtedly some people who believe that these goods will only be available in a world in which there are two sexes. This is clearly false – all of these goods are realisable in a world in which there are only homosexual women or in a world consisting entirely of appropriately designed hermaphrodites. Nonetheless, it might be argued that the existence of two sexes increases the variety of human experience and is a condition for the production of various goods arising out of interaction between the two sexes (Scruton 2006).

Yet, once more, there is a collective action problem here. The existence of sexual diversity may be required to produce certain important goods, but no particular parent is required to choose a child of

any particular sex in order to produce these goods. Given that girls have more open futures than boys, each couple has reason to choose a girl and no couple has reason to choose a boy. Without some sort of collective action to prevent parents pursuing what is best for their children, the good of diversity will not be maintained. Indeed, it appears that sexual diversity can only be achieved *at the expense of* the interests of those parents who are required to have sons in order to produce it. This also raises the question of the *justification* of requiring that some persons have reduced opportunities and lower well-being in order to produce goods that will largely be enjoyed by others. In particular, there is a danger that this involves using some people for the benefit of others.[6]

Two sexes good, three sexes better?

A further difficulty with the argument that the existence of two sexes is required to produce certain goods is that it is there is no *a priori* reason to believe that the best way to produce the postulated benefits of sexual diversity is to stop at two sexes. If 'variety is the spice of life' then perhaps we would do better with more sexual variation (Fausto-Sterling 2000, 78–114). Why not engineer human beings so that they are divided into three sexes or four sexes or even more? This would make possible a still-wider range of romantic and social relationships, and of sexual experiences. Defenders of the *status quo* owe us an argument to explain why *two* sexes will produce most human happiness.

This observation is indicative of a more general problem with 'Panglossian' arguments, which hold that features of the current human condition such as diversity, or suffering, or contingency, etc, are necessary to the production of important goods, which is that they typically neglect the possibility that *more* of these phenomena might be brought about in order to produce more of the postulated goods (Sandel 2007; McKibben 2003; Kass 2002, 267–268; Parens 1995). Once we recognise that we might use our increasing control over the circumstances of human life to produce more rather than less – as is usually proposed – of the contested features of the current situation, the status quo is revealed as doubly arbitrary. Moreover, the fact that critics of the use of medical (and other) technologies to reduce contingency, suffering, or diversity, etc, seldom argue that we should instead use these technologies to increase or sustain these phenomena suggests that their defence of the status quo is essentially conservative rather than motivated by a genuine concern for the goods they postulate.

One sex for all?

Notice also that any society that contains two or more sexes and in which sexual orientation is largely fixed, more or less guarantees that a significant percentage of potential life partners will be unavailable to any given individual. There will be many occasions in which we meet our 'soul mate' – or just someone with whom we might expect to be able to have a pleasurable sexual encounter – only to discover that they are not of the appropriate sex. Missed opportunities and frequent disappointment are also an inevitable consequence of sexual difference.

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[6] This possibility looms especially large where the diversity in question is diversity in the human form as conceived in debates around disability. It is one thing to argue that the presence of people with disabilities in the community makes possible certain goods, it is quite another to argue that parents should be required to bring children with disabilities into the world in order to produce these goods.

Thus, while, on the one hand, differences of sex and sexual orientation may make possible a wider variety of experiences, on the other hand, each of these phenomena also imposes significant limits on the opportunities and experiences available to individuals. A world of lesbians or hermaphrodites in which everybody is (potentially) attracted to everybody would remove these barriers to romantic and sexual satisfaction and might increase individuals' chances of finding happiness with a partner. Depending upon what we identify as the source of variation and interest in encounters with other people, such a world might also contain *more* variety than a world in which most people are denied sexual and romantic relations with 50% of the people they meet.

The aggregative or social consequences of bringing only girl children into the world therefore do not alter the fact that if parents are concerned to have the best child possible, they should choose to have a girl. In the short term, this may establish a collective action problem. However, in the longer term this problem might be able to be resolved by using environmental manipulation or genetic technologies to ensure that individuals do not regret the absence of the 'opposite' sex. Moreover, as we have seen, there is some reason to believe that a single sex world would avoid the restrictions on the opportunities available to individuals due to the contingent fact of sex. This may be a further reason to work for the creation of such a world.

IV. RESISTING OPTIMISATION

The idea that we should try to produce 'the best' babies is controversial. In this section, I argue that, even if the obligation to enhance is less demanding than this, we cannot justify choosing male children except by making reference to the idea of 'normal human capacities'.

As I have argued here and elsewhere, the maximising logic of the case for human enhancement has profoundly counter-intuitive consequences (Sparrow 2007). A number of influential authors have previously argued that, at the very least, we should be extremely cautious before trying to identify and conceive the 'best' baby. Various arguments have been put forward as to why this project is dangerous, is likely to be self-defeating, and/or is profoundly immoral. Pursuit of the best may be dangerous if it leads to parents adopting untested and potentially risky genetic interventions to try to secure 'superior genes' for their children or if it produces a lack of toleration for those who are different or other evils associated with the old eugenics (Agar 2004; Kitcher 1996). It may be self-defeating if the 'best' genetics produce only positional advantage such that everybody pursuing them will leave no one better off (Buchanan et al. 2000, 186–187; Glover 2006, 80). It may be profoundly immoral in so far as it involves instrumentalising the child or establishing a radical and unprecedented asymmetrical relationship between the child and its 'designer' (Habermas 2003) or if it leads parents choosing children with capacities suited only to specific narrowly defined life plans, which they may later reject (Agar 1998).

I have some sympathy for all of these arguments. Yet notice that, however powerful we judge these arguments to be in establishing the case against gene therapy or against selecting for particular character traits as diagnosed by prenatal testing, they are each significantly weaker arguments against selecting the sex of children. Sex selection is not a risky procedure, nor does it suit children only for narrowly defined life plans.[7] It involves so little shaping of the child that it is difficult to see how it turns parents into 'designers' or how it instrumentalises the child any more than the

[7] Genetic engineering for hermaphrodism, on the other hand, may well be risky and consequently is likely to be unethical until we can be confident that the process has been rendered safe and reliable. In its favour, however, is the fact that it would allow children maximally open futures.

preference for a child of a particular sex that parents already often possess. The advantages deriving from being female that I have cited are not positional. There is, perhaps, a danger that widespread selection in favour of girl children will lead to a decrease in social acceptance of men. However, as has frequently been emphasised in debates about prenatal screening for conditions leading to disability, it is not necessarily the case that discriminating between embryos will lead to discrimination against actually existing people (Buchanan et al. 2000, 276–281; Nelson 1998; Steinbock 2000). Recognition that it is better to be born a girl is compatible with respect for the human rights of men. Selecting in favour of girl children therefore need not lead to those abuses of human rights associated with the old eugenics.

Moreover, even if we abandon the idea that parents are obligated to have the *best* child possible – as, indeed, I believe we should – and conclude instead only that parents have some obligation to ensure that their children should have some basic minimum of open future and well-being, unless we make reference to an idea of normal human capacities that is morally significant, it is extremely difficult to see how we can avoid the conclusion that parents should select against male children.

In order to understand why this is the case it is useful to reconsider the hypothetical scenario described earlier. My initial description suggested that Embryo A was female and Embryo B was male but, of course, this need not be the case; the description given to the parents in the example was deliberately constructed so as to 'blind' the origin of the diagnosis. If both Embryo A and Embryo B were female then our intuitions about what the parents should do changes markedly.

Another 'genetic condition' which would lead to the parents being provided with the same information is a mutation associated with Mayer-Rokitansky-Kuster-Hauser syndrome (Morcel and Camborieux 2007; Oppelt et al. 2006).[8] Children born with this syndrome are born without a uterus (or with a severely malformed uterus) although their genitalia and other secondary sexual characteristics are outwardly normal; because they possess ovaries, it is possible for MRKH sufferers to become genetic parents but only via the use of a surrogate mother (Beski et al. 2000). The syndrome is also associated with disorders of the kidney, skeleton, and heart, although these are by no means present in all cases. It is entirely plausible therefore to assume a lowered, though not radically so, life expectancy on the basis of a diagnosis of this genetic disorder.[9]

If Embryo A is a normal female embryo and Embryo B is a female embryo that has been diagnosed as having a genetic condition leading to MRKH, it seems clear that parents should choose Embryo A. MRKH is a serious disorder with significant consequences for those born with it. Even if we did not think that the lack of the normal reproductive capacities of a woman was significant – and it should be noted that medical information about the condition advises that many individuals diagnosed with it will experience grief and profound psychological distress when they realise that they won't be able to bear children – the loss of life expectancy involved is non-negligible (Morcel and Camborieux 2007; Oppelt et al. 2006). We do not need to believe that we are obligated to have the best child to believe that we are obligated to avoid bringing children with serious disorders into the world where it is easy to bring a healthy child into the world instead.

Presuming that, in making decisions about future persons, we should not bring children into the world who will suffer from serious genetic disorders, any claim that it is *permissible* to choose

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[8] Although MRKH is thought to have a genetic cause, the gene or genes involved have yet to be identified; to that extent, the following scenario is hypothetical. However, with our rapidly increasing knowledge of human genetics it is unlikely to remain so for too much longer.

[9] For the sake of the argument here, let us simply stipulate that the loss of life expectancy associated with this disorder is the same as the gap in life expectancy of men and women.

Embryo B will require asserting that the condition that it suffers from is not 'serious'; that is, it will require making reference to a notion of normal human capacities. In the ordinary case, that will be because the 'genetic condition' is 'maleness' and not serious – indeed, not a 'medical condition' at all, in the ordinary sense but instead a perfectly normal human variation. However, if we wish to insist that it is permissible for parents to choose an embryo with MRKH, then this will also involve making reference to an account of normal (female) human capacities and then arguing that the capacities of women born with MRKH are not sufficiently different to these for the condition to count as serious. Either way, then, the claim that it is permissible to choose the embryo with the capacities of the normal human male requires making reference to a notion of normal human capacities.

Avoiding the non-identity problem: single embryo cases

Thus far, I have been discussing examples which involve choosing between embryos. It might be argued that we have no obligations arising out of the interests of the future child, as long as they will have a life worth living, because the 'non-identity problem' means that children cannot be harmed by a decision that brings them into existence. As we will do no harm whichever choice we make, it is permissible to choose either embryo.

As I noted above, the literature about the ethics of enhancement typically argues that we *do* have some obligations in relation to choices between persons, as do, arguably, our 'folk intuitions' about the ethics of conception (Parfit 1984, 358–371; Harris 2007; Savulescu 2001). Proponents of enhancement using PGD, for instance, should be reluctant to make recourse to invoking the non-identity problem in order to resist the implications of the argument I have made here. In any case, it is possible to illustrate the perverse consequences of an obligation to improve human beings in the absence of a concern for normal human capacities in a context that does not raise the non-identity problem. Imagine that:

> The parents are told that they have produced only one viable embryo and that this embryo unfortunately suffers from a debilitating 'genetic condition' that reduces the child's life expectancy and renders them unable to bear children. Fortunately – the parents are informed by the attending clinicians – a treatment involving genetic modification has recently been pioneered, which can entirely mitigate the effects of this condition. If they choose to employ it, this treatment will significantly extend the life of their child and also transform its reproductive capacities. What should they do?[10]

If the 'genetic condition' is MRKH, then the 'treatment' is therapy. Moreover, the parents are arguably obligated to provide the treatment for their embryo, as a failure to do so will leave their child with significantly reduced welfare and range of options in relation to reproduction. If the genetic condition is maleness, on the other hand, then the 'treatment' is clearly an enhancement; moreover, most people will deny that the parents are obligated to provide it in this case. Our ideas about the normal capacities of the human body play crucial role in determining our intuitions about the example. Unless we are willing to hold that whether a set of capacities is normal is relevant to

[10] Given the philosophical advantages of this example, the question might be asked as to why I didn't begin with this case? I did not because the technology involved is hypothetical, whereas the technology involved in the two embryo case – sex selection – is readily available. Any conclusions we reach about the two embryo case will consequently have dramatic implications for contemporary practice. I offer the single embryo case here in support of the main argument about the implications of denying normative significance to the idea of a 'normal human body' for sex selection.

their evaluation, I do not see how we can avoid the conclusion that the parents are obligated to proceed with the treatment even in the case where the 'genetic condition' is maleness. That is to say, that they are obligated to ensure that their child is born with the capacities of a normal woman. In this case, there can be no recourse to the non-identity problem to avoid this provocative conclusion.

V. DEFENDING DIMORPHISM

Up to this point, I have resisted commenting upon the plausibility of the conclusion that we are obligated to choose only girl babies (or – eventually – hermaphrodites). I have primarily been concerned to draw out the implications of the case for human enhancement rather than engage directly with it. However, let me state clearly now that I do think that this is an unattractive and implausible conclusion. I think this not because the claim that girls are better than boys is implausible (my attitude towards the argument would be no different if the conclusion was that we should select only male children) but because I believe that sexual dimorphism is a deep and valuable feature of the human condition. Defending this intuition would require another paper and is not my purpose here.[11] Instead, what I have tried to show here is that *unless we hold that the fact that a particular set of human capacities is 'normal' frees us from the obligation we might otherwise have to modify them,* we cannot avoid the implication that all children should be born with the same optimal set of capacities. Until we have the technological capacity to engineer hermaphrodites, this will mean that all children should be born female.

Faced with the choice between affirming the normative significance of a notion of normal human capacities and abandoning sexual dimorphism, my thinking is that we should choose the former. I believe we should agree that if a child has the normal capacities of its sex, it is 'good enough'. If this is true, it has dramatic implications for the debate about human enhancement. If our obligation to have 'better' children lapses once we have secured the birth of a normal child, then we have no obligation to enhance at all!

Others, perhaps more committed to following a philosophical argument where it leads, will embrace what I am inclined to believe is a *reductio* and choose to abandon dimorphism. I can say no more to this latter group here except to note that given that we already possess a number of efficient technologies of sex selection, theirs is a choice with dramatic implications for real-world reproductive decision-making.[12]

However, I want to conclude with a few observations about my preferred choice in relation to this dilemma, which is not without its own difficulties. Defending dimorphism requires insisting that there are *two different* sets of capacities that are normal: there are normal male bodies and normal female bodies.[13] How we determine what these capacities are is a by-no-means-trivial problem; presumably it will require making reference to some biological notion of 'ideal (species) type' and

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[11] This argument has been made by some conservative thinkers (Kass 1997; Scruton 2006).

[12] It would be interesting to speculate as to why this implication of contemporary bioethical and trans-humanist argument has not been more widely publicised; one suspects that the men who constitute the overwhelming majority of those writing in these literatures are reluctant to entertain the possibility that they are, by their own lights, obsolete.

[13] Seeing both male and female variants of the species as normal is a relatively recent historical phenomenon. For most of the history of Western medicine, for instance, women have been held to be deviant and 'lesser' versions of men (Laqueur 1990, 149).

perhaps also (or instead) an Aristotelian notion of species flourishing.[14] Moreover, defending dimorphism also requires insisting that an individual's sex is a significant feature of their moral personality: how we should treat someone, at least in relation to some medical decisions, is partially determined by their sex. In the scenarios I have been investigating, whether or not a change in a child's capacities is treatment or enhancement will depend on its sex. However, insisting that an individual's sex is normatively significant is likely to have implications for other debates in bioethics, especially in relation to access to medical resources and in relation to reproductive technologies (Sparrow 2008).[15]

In many ways, the insistence that human beings are essentially sexed creatures is a profoundly (historically and, perhaps, also politically) conservative conclusion, which – given that I am not inclined to conservatism – is a source of considerable discomfort to me.[16] Yet, as I have tried to show here, this commitment is forced upon us if we wish to avoid the even more discomforting conclusion that we have good reason to use medical technology to move towards a single sex species.

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[14] The idea of *individual* flourishing is unlikely to be able to do the appropriate work here and produce *two* normal types.

[15] In particular, my conclusion seems likely to have significant implications for debates around gender reassignment surgery and intersex conditions. As I noted at the beginning of the paper, the range of sexual variation in the human species is wider than just the two sexes. There exists a range of intersex and other conditions which produce people who are not easily categorisable as belonging to either the male or female sex (Kessler 1998). In recent decades, some intersex persons have conducted a vigorous political campaign for the idea that intersex conditions should be understood not as deviations from a normatively significant ideal type but rather as part of the normal range of human variation. See, for instance, Intersex Society of North America 2008, and Lareau 2003. My argument here suggests that this project is more problematic than it might otherwise appear. As I have argued, abandoning the notion of a normal human body altogether has theoretical consequences that in the long run are likely to be extremely deleterious to the continued existence of diversity in the human form. It is possible, of course, that we might instead recognise that there are more than two 'normal' sexes. Once we allow that there are two sets of normal human capacities, we open the door to the possibility that there might be more than two. However, it seems unlikely that *every* intersex condition could represent a set of capacities that we had no reason to assess against another set. Nor does it appear as though Aristotelian arguments about species flourishing will be available to support the conclusion that the rarer constellations of bodily capacities are normal. However, while the notion of a normal human body is clearly relevant to debates about surgery to assign and change sex/gender, nothing I have said thus far is intended to argue for any particular course of action in relation to the treatment of children who are born intersex or for any particular conclusion as to the appropriate social attitudes towards sexual variation.

[16] I am continuing to wrestle with these questions in my research; another attempt to explore the implications of sexual dimorphism for the debate about human enhancement may be found in Sparrow 2010.

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