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**IS IT ETHICAL TO GENETICALLY ENHANCE YOUR FUTURE CHILD?**

by

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### *Abstract*

As the science related to genetic engineering becomes more advanced, more and more ethical questions relating to technologies such as CRISPR and preimplantation genetic diagnosis (PGD) arise. If we have the opportunity to choose the genes of our future children in order to have children with our desired characteristics, should we do so? Is it okay to mess with some genes of your future child and not others? In this paper, I discuss arguments and objections associated with these questions. The aim of this paper is to show that it is ethical to alter the DNA of your future child or select a specific child *only* when you are attempting to improve the health of that child.

Many might find the possibility of designing their own baby exciting. What could be better than creating the exact baby that you have always dreamed of? While it is easy to fantasize about the positives of genetic engineering, when we really dig deep into what such technology would mean for society, many problems emerge. How do we decide which genes are ethical to alter and which aren't? In this paper, I argue that it is unethical to alter your future child's genes or select a certain embryo unless you are doing so in order to improve the child's health. My paper is organized in the following way: In section 1, I explain current genetic technologies. In section 2, I present Julian Savulescu and Guy Kahane's argument in favor of genetic enhancements. In section 3, I explain Martha Nussbaum's objective list theory of well-being. In section 4, I discuss arguments related to the differences between wanting good health for your child and wanting your child to have extraordinary abilities. In section 5, I present the Prevention of Suffering View, a view I find to be stronger than Savulescu and Kahane's view explained in section 2. In section 6, I discuss the eugenic objection. In section 7, I discuss Elizabeth Barnes' disability objection. In section 8, I discuss Michael Sandel's 'Life is a Gift' objection. In section 9, I discuss equality in relation to genetic engineering. I conclude my findings in section 10.

### Section 1: Current Genetic Technologies

There are currently several procreative genetic technologies in use. Preimplantation genetic diagnosis (PGD) requires in vitro fertilization (IVF) and single sperm injection (S&K, 275). IVF is a process of fertilization where an egg and sperm are combined outside of the body. The fertilized egg or embryo is then implanted into the woman's uterus (Mayo Clinic Staff, 1). PGD can be used to detect chromosomal abnormalities and single gene disorders (S&K, 275). There is a newly developed version of PGD called pre-implantation genetic haplotyping (PGH) that may allow testing for a wider range of conditions and can greatly expand the use of genetic selection (S&K, 275). Gene chips are devices that are around the same size as postage stamps and are based on a glass substrate wafer. Gene chips contain many tiny cells, each cell holding DNA from a different human gene (Quinion, 1). As gene chips are developed, thousands of genes could potentially be tested at once. A recently developed genetic test requiring the use of gene chips called ACTN3 can "identify physical talent at either endurance or sprinting events, and a single gene polymorphism has been postulated to be associated with perfect pitch" (S&K, 275-276). CRISPR technology is a new and powerful way to edit genomes. Researchers are easily able to alter DNA sequences and modify gene function (Vidyasagar, 1). CRISPR is short for "CRISPR-Cas9". "CRISPRs are specialized stretches of DNA, and Cas9 is an enzyme that acts like a pair of molecular scissors, capable of cutting strands of DNA" (Vidyasagar, 1). There is ethical concern with choosing embryos according to non-disease characteristics (S&K, 276), as well as using CRISPR with the purpose altering DNA sequences related to non-disease characteristics.

Section 2: An Argument in Favor of Genetic Enhancements

In their paper, *The Moral Obligation to Create Children with the Best Chance of the Best Life*, Julian Savulescu and Guy Kahane argue that we must select from amongst the children we can have, the ones with the best chance of the best life. They argue in favor of a view called The Principle of Procreative Beneficence (PB), which states:

If couples (or single reproducers) have decided to have a child, and selection is possible, then they have a significant moral reason to select the child, of the possible children they could have, whose life can be expected, in light of the relevant available information, to go best or at least not worse than any of the others (Savulescu and Kahane, 274).

It is natural for parents to want to have the best child that they can. Future parents already try to do so in various ways. They try to find a well endowed partner and try to conceive at a time when “they have built sufficient financial, material, and emotional resources to provide a good life for their child” (S&K, 276). If parents are already trying to have the best child with the best life, why shouldn’t they utilize these new genetic enhancement strategies?

Savulescu and Kahane write,

Even those who deny that parents are allowed to select the most advantaged child will often admit that parents should hope for a child who is naturally endowed with talents and capacities that will make it likelier that she will lead a good life. When people have such wishes, they may be implicitly recognizing the normative force of PB (S&K, 278).

While this is true, I do not think that the people that object to PB object to it because of any views that conflict with the aforementioned statement. There is a difference between wanting the best for your child and actively intervening with their genetic make up in order to make that happen. When parents try to create a specific child based on what they desire, many problems arise—one being that it may be more difficult for parents to accept their children for who they are. Sandel argues that genetic engineering would prevent parents from treating the sense of

life as a gift, and that genetic engineering would increase the already toxic practice of “hyper-parenting” (Sandel 61). Robert Sparrow argues that genetic engineering would lead to a eugenic-like world (Sparrow 32). I will elaborate more on these in sections 6 and 8.

While at first glance PB seems extreme, Savulescu and Kahane back it up with convincing arguments. They write that based on common intuition, most would agree that future parents who are indifferent to whether their future child will be born with the potential for a good life are morally flawed. They do not give a reason for this, but I think that this is a fair assumption to make. Why would a parent want anything but a good life for their child, a person they will care so deeply about and for whom they are deeply responsible? They argue that future parents are already trying to create the child with the best chance of a good life, just in different ways. When dating, people often take into consideration their partner’s genetic attributes as well as their parenting potential. Future parents also decide to conceive at a time when they are financially and emotionally stable. Both of these behaviors involve attempting to create a child with the best chance of the best life (S&K, 276).

Savulescu and Kahane explain a specific case in which our moral intuitions are the clearest. They tell us to imagine a scenario in which the rubella virus mutates in a way that makes it resistant to the current vaccination, causing a rubella epidemic to occur. A couple decides to have a child. If the woman gets pregnant now, and she hasn’t been immunized or her immunity has worn off, she will most likely contract rubella, which would cause the baby to be born with congenital rubella—blind, deaf, and with severe brain damage. The woman knows that in a couple of months the epidemic will have passed and that she will most likely have a normal child if she waits (S&K, 276). I think that most would agree that the woman should wait

a couple of months before attempting conception so she could have a child that is not blind, deaf, and brain damaged. But Savulescu and Kahane take it one step further when they write,

Indeed, we believe that many would further agree that if, because of some medical condition, a couple could have either a child with average health and talents now or an especially healthy and gifted child if they waited one month, then the couple has a reason to wait before having a child (S&K, 276).

They once again back up this idea by explaining that couples wait years to build different types of resources to provide their future child with the best possible environment in which to grow. They conclude that “it is in fact implicit in commonsense morality that it is morally permissible and often expected of parents to select the child with the greatest potential for well-being.” (S&K, 277).

Their argument is definitely convincing. If we already try to increase the well-being of our future children and this is just another way to do so, what could be so wrong with that? While I agree that in the case presented, the woman should wait in order to have a child without the rubella virus, I find this to be inherently different from their second case, in which a couple should wait a month to have an especially healthy and gifted child, rather than have a child with average health and talents. There is a huge difference between preventing disability and promoting extraordinary ability. When parents attempt to prevent disability, they are trying to promote their future child’s overall level of health. Parents want their children to be able to exercise normal human functioning capabilities, so that they are not disadvantaged in life from the start. On the other hand, parents that focus on promoting extraordinary ability are trying to reach a certain goal that they have for their future child. When parents try to design ‘perfect children’, they inevitably impact their relationship with their future children by having an already-set idea of who they want their child to be. If parents use their time, energy, and

money on trying to make their child a certain way, and their child does not turn out to be what they wanted, they may feel disappointed and damage the parent-child relationship.

### Section 3: Objective List Theory of Well-Being

In order to fully comprehend Savulescu and Kahane's argument, we must have an idea of what 'well-being' means in the first place. Martha Nussbaum, in her paper, *Human Capabilities, Female Human Beings*, explains her view about well-being and human flourishing. She believes that well-being involves having the capability to exercise human functionings, and that capabilities are divided into two levels: threshold and flourishing levels. According to Nussbaum, the fewer capabilities you have, the less likely you are to be able to achieve a life of human flourishing.

The first and threshold level of human flourishing includes the following human functionings: having an aversion to death, hunger and thirst, need for shelter, sexual desire, mobility, capacity for pleasure and pain, cognitive capability, early infant development, practical reason, affiliation with other human beings, relatedness to other species and to nature, humor and play, separateness (proceeding on a separate path through the world from birth to death), and strong separateness (Nussbaum, 76-80). By strong separateness, Nussbaum means that each human life has its own peculiar context and surroundings that are not exactly the same as those of anyone else (Nussbaum, 80). The second level of human flourishing includes the following capabilities: being able to live to the end of a human life or normal length, have good health, be adequately nourished, have adequate shelter, have the opportunity for sexual satisfaction, have the choice in matters of reproduction, move from



place to place, avoid unnecessary and non-beneficial pain, have pleasurable experiences, use the senses, have attachments to things and persons outside ourselves, form a conception of the good and engage in critical reflection about the planning of one's own life, live for and to others, live with concern for and in relation to animals, plants, and the world of nature, laugh, play, and enjoy recreational activities, and live one's own life and nobody else's (Nussbaum, 83-85).

Nussbaum believes that a life of human flourishing is compatible with most disabilities. While being deaf would pose a challenge to human flourishing, a deaf person, according to Nussbaum, is still capable of living a life of human flourishing, even though it would be more difficult to do so. The same cannot be said of a person with Tay-Sachs disease. The reason we must conclude that Tay-Sachs is incompatible with living a life of human flourishing is because a person with Tay-Sachs fails to achieve a threshold level of capabilities across a wide range of human functioning (Nussbaum, 76-85).

While a person can have a disability and still live a life of human flourishing, wouldn't we want to, if given the opportunity, to give our future children every capability that Nussbaum mentions? Wouldn't we want to give our children a wide range of opportunities to live a life of human flourishing? Any challenge to the capacity to live a life of human flourishing makes the reality of being able to live a life of human flourishing less likely. If there are two people with exactly the same capabilities except for one of them being deaf, the non-deaf person is more likely to live a life of human flourishing than the deaf person. If it is in our control, shouldn't we do our best to make sure that our children are capable of living lives of human flourishing?

Section 4: Good Health vs. Extraordinary Abilities

Why do we consider health to be such a vital part of human flourishing? What is the difference between wanting your child to be healthy and wanting your child to be extraordinary? Michael J. Sandel, in his book, *The Case Against Perfection*, addresses the argument associated with PB that a parent's obligation to heal a sick child implies an obligation to enhance a healthy one, in order to maximize his or her potential for success. He explains that this is true "only if one accepts the utilitarian idea that health is not a distinctive human good, but simply a means of maximizing happiness or well-being" (Sandel 47). Sandel explains that good health is a constitutive element of human flourishing (Sandel 47). I think Sandel means that in order for a person to live a "normal" life and have the opportunity to do what they want; it is a requirement for them to be healthy enough to do so. It would be difficult for a person to fully flourish in society if they have to deal with the detrimental effects of being sick.

Sandel thinks that while some talents and traits bring success into a competitive society and can be maximized, good health is different. It would be unusual to aspire to be the healthiest person alive, like one aspires to be the most athletic or the most beautiful. Sandel refers to health as a "bounded good", writing that parents are able to seek it for their children without risk of being drawn into an "ever-escalating arms race" (Sandel 49). By "bounded good," Sandel means a good with an upper limit—a good that one cannot have more and more of. When parents try to have a healthy child, they are not converting their children into "products of their will or instruments of their ambition" (Sandel 49). Parents that are obsessed with enhancing their children are much more likely to "overreach, to express and entrench attitudes at odds with the norm of unconditional love" (Sandel 49). This is a core difference

between preventing disability and promoting extraordinary ability. We cannot say that a parent that wants their child to be healthy is exercising hyper-parenting –they are not hoping for the ‘best’ child, they are simply hoping for a healthy one.

There are reasons to try to have a healthy child that are not analogous to wanting to design a perfect child. Parents want to be able to spend time with their children without constantly worrying about when their next doctor’s appointment is, or how much pain their child is in. They also want their children to be capable of pursuing their interests, and capable of having a variety of ambitions. Asthma is a good example of this—many children that are interested in pursuing sports are unable to because they have a hard time breathing while playing. It is much harder for a person with health issues to live the life that they want to live. If we had the ability to take away these unnecessary burdens on both parent and child, why shouldn’t we?

#### Section 5: The Prevention of Suffering View

In this section, I explain the view that we must focus solely on the prevention of suffering and promotion of health when discussing genetic engineering, a view that is compatible with Sandel’s arguments in section 4. Savulescu and Kahane present the Prevention of Harm View and then defend PB against it. The Prevention of Harm View is: “If reproducers have decided to have a child, and selection is possible, then they have a significant moral reason to select one of the possible children they could have who is expected to experience least suffering or limited opportunity or serious loss of happiness or good compared to the others” (S&K, 281). It is important to note that no one has specifically argued for the Prevention

of Harm View, which is why Savulescu and Kahane do not cite anyone. I think this is because they should not have used the word 'Harm' in the name of the view because it is misleading and does not correlate with what the view is trying to say. In my view, the word harm implies an action. One can *cause* harm to another. This is different from suffering. Buchanan, Brock, Daniels, and Wikler write, "Some genetic interventions—those that prevent a genetic impairment by preventing an individual who would have the impairment from coming into existence—cannot be described as preventing harm, if a harm is a worsening of the condition of a particular individual. If the individual does not exist, then the intervention cannot worsen his condition" (B, B, D&W, 19). If there is a person who is in love with their best friend, but their best friend isn't in love with them back, could we say that their best friend is causing them harm? It seems that because no one intentionally caused the other one pain, no harm occurred. What we can say is that the unrequited love caused the person to suffer. When parents are selecting their children, they are not trying to prevent harm, they are trying to prevent suffering. A pregnant mother can cause her future child harm by smoking cigarettes, but if a baby is going to be born with a disease without any action of the parents, no harm is occurring. It seems that this is the point that the Prevention of Harm View is trying to make. Therefore, I am going to rename the Prevention of Harm View the Prevention of Suffering View.

Common sense intuitions seem to be stronger when reproductive choices aim to prevent suffering rather than create a child with very good prospects (S&K, 281). An important strength of the Prevention of Suffering View is that it accords with our human intuitions. One reason Savulescu and Kahane prefer PB to the Prevention of Suffering View is because PB allows parents to decide what they consider to be the "best life", while the Prevention of

Suffering View does not. They write, “Those born with the greatest gifts and talents may squander them while those born into great hardship may overcome enormous obstacles to lead the best of lives” (S&K, 278). They back up the idea that parents being able to choose what is considered the “best life” is an advantage with this quote, in which they are saying that quality of life is not always based on whether or not one is born into hardship or not. People can be born with every advantage in the world and still live average lives, while others can be born with every disadvantage in the world and live spectacular lives. Many times suffering through hardship is good, because it can strengthen a person and lead to them living better lives than they would have if they didn’t have to overcome such obstacles. They explain that on the Prevention of Suffering View, “reproducers should not select children who can be expected to endure significant suffering or hardship *even* if these children are also expected to have a high overall level of well-being” (S&K, 281). They think that preventing suffering will not always lead to overall greater well-being, which is why they find it important that PB leaves everything open, preventing diseases as well as improving abilities.

Savulescu and Kahane prefer PB over the Prevention of Suffering View because PB allows parents to decide what a “best life” entails, and lets them enhance their children, rather than just prevent future suffering. I prefer the Prevention of Suffering View to PB, because I think it is wrong to let parents decide what the “best life” entails. The danger of parents being given the opportunity to decide this is that they *can* choose suffering for their child. Why should parents get to decide whether they think suffering is “best” for their future child? Yes, a person can grow from overcoming difficult obstacles, but what about the pain that they had to endure in order to overcome them? There is already enough suffering for people to endure,

and having a serious disease makes dealing with these existing hardships nearly impossible. Unnecessary suffering is bad for well-being because it places unneeded burdens on both parent and child. It seems intrinsic to us as humans that having a healthy child is more important than having a perfect one—we do not want our children, or anyone for that matter, to suffer through unnecessary pain. If this wasn't true, why would doctors spend so much time trying to heal sick people? Why would scientists dedicate their entire lives to finding new cures for diseases?

Regarding the first advantage listed above, Savulsecu and Kahane attempt to show the advantages of PB over the Prevention of Suffering View by explaining that PB allows parents to choose what they consider to be the “best life”. They explain that while both PB and the Prevention of Suffering View would instruct parents to select children that are less disposed to depression because it objectively makes a life worse, this is not the case with manic depression. They explain that manic depression is much more complicated, and that the highs have been linked to great creativity and productivity. They write that The Prevention of Suffering View would most likely require selecting against manic depression because of how low the lows could be, giving parents no option but to prevent the child from having manic depression (S&K, 281-282). But if this is the case, then it seems that they are admitting that manic depression is objectively contrary to well-being. They argue that because some people with manic depression endorse their condition, identify with it, and can live successful lives, “it is an advantage of PB that it leaves it open whether parents have reason to select against manic depression” (S&K, 282).

Savulescu and Kahane argue that manic depression includes suffering but is not contrary to well-being because some people identify and endorse it. I strongly disagree with Savulescu and Kahane's argument about manic depression. Statistics show that as many as fifteen percent of people with manic depression will die by their own hands, half will attempt to, and nearly eighty percent will contemplate doing so (Bloomquist 1). The lows *are* extremely low, and I don't think anyone should ever have to deal with mental states so horrible if they can be prevented, even if the highs are great. People can be creative and productive without having to endure the kinds of suicidal depressive states common to manic depression. Savulescu and Kahane say that it is an advantage of PB that the parents are left with the option of choosing the child with manic depression, but I think this is a disadvantage, because there is a chance that parents could choose to have such a child, and that child's suffering would not be outweighed by the benefits of the condition. Besides it being clear that manic depression is worse for overall well-being, why do the parents get the right to make that judgment call? It seems dangerous that PB allows parents to make this decision—why are they in the best position to know?

In one of the most written about and discussed cases relating to genetic engineering, a deaf lesbian couple deliberately created a deaf child by using sperm from a deaf male donor (S&K, 282). Many might feel that the parents' decision to intentionally create a deaf child is morally wrong. While it is great that deaf people have access to deaf communities, it is extremely difficult for deaf people to communicate with others if they do not know sign language. Verbal communication is at the root of most social interaction, and social interaction drives our society. It is much more difficult for deaf people to secure a job than hearing people.

According to *Deaf People and Employment in the United States*, in 2014 approximately 48% of deaf people were in the workforce, compared to 72% of hearing people (Garberoglio, Cawthon & Bond, 1). When it is harder for a person to get a job, it is more likely that they will live in poverty, which is clearly contrary to well-being. It would be difficult for someone to argue that a person who is unable to afford natural human resources such as water, food, and shelter, has a good overall level of well-being. Because PB allows parents to choose what is considered the “best life” of their future child, deliberately choosing to have a deaf child would not go against PB. Again, it is *not* an advantage of PB that parents have the option to have a deaf child or a child with manic depression. How could it be an advantage that parents have the option to bring unnecessary suffering into the world?

Savulescu and Kahane would respond by arguing that the disadvantages of disabilities such as deafness are socially, not naturally imposed. They believe that disability is context and person relative—that “what makes it harder to lead a good life in one circumstance may make it easier in another” (S&K, 286). Deafness, according to Savulescu and Kahane, would be a positive advantage in an environment of extremely loud and distracting noise (S&K, 286). The idea that disabilities are socially imposed is compatible with Elizabeth Barnes’ mere-difference view of disability, which I will explain in detail in section 7.

Savulescu and Kahane also argue that “parents are exposing children to risks of suffering, hardship, and frustration simply by bringing them into existence.” (S&K, 282). They write, “if procreative choices were constrained in this way, there could be strong presumptive reasons to abstain from procreation altogether” (S&K, 282). But the goal of the Prevention of Suffering View is to prevent unnecessary serious suffering and loss of opportunity (S&K, 281).



Unnecessary suffering is pointless suffering—suffering that is not necessary for any greater good. The suffering that parents are exposing children to by bringing them into existence is not unnecessary—it is a natural part of life. Realizing that some of your friends don't actually care deeply about you is a painful experience full of suffering, but it is necessary part of life. Without it, it would be impossible to find true friends. This is inherently different from the suffering a deaf person experiences—the inability to communicate well with others does not lead to any greater good of life. In the following sections, I elaborate on important objections to Savulescu and Kahane's view that we should create the children with the best chance of the best life.

#### Section 6: The Eugenic Objection

Robert Sparrow, in his paper, *A Not-So-New Eugenics*, argues against Savulescu and Kahane's view of enhancement. Sparrow's main issue with their argument lies in the fact that it leads to conclusions that are even scarier than they acknowledge in their paper. Sparrow thinks that if the world were to function as PB instructs, it would not differ much from the one eugenicists pushed for in the past (Sparrow 32). His main argument focuses on the way social factors would influence the way parents would choose the genes of their future children. Society treats white, straight men the best, and if parents are trying to have children with the best chance of the best life, what would stop all of them from having the white, straight men? Sparrow thinks PB would unintentionally lead to a eugenic world because of this, which would lead to discrimination against non-straight white men becoming out of control (Sparrow 35).

Savulescu and Kahane could respond that PB allows the prospective parents to decide what is best, while eugenicists were the ones deciding what was best. Sparrow would say that

this difference doesn't matter because the end result would be the same. While not enough to really distinguish PB from eugenics, I think there is a small difference here—eugenicists were deciding what was best for all of society based on hatred of a certain group, while parents are choosing what is best for their individual children. This makes us question whether eugenics is wrong because of the end result or because of the hatred eugenicists had towards the groups they deemed lesser. Buchanan, Brock, Daniels, and Wikler write, “parents do not practice eugenics when they seek ‘the perfect baby’. The reason is that these parents presumably do not employ clinical genetics with the population’s welfare in mind” (B, B, D&W, 53). While the cumulative impact of these parents’ decisions can affect the well-being of others and society over time, the reason parents seek to use genetic engineering technologies is because they want their child to be advantaged (B, B, D&W, 53). Parents do not have the intention of removing a group of people entirely. Nevertheless, when society decides that it is best to be a white straight male, parents will notice this and try to create the child with the best chance of the best life, which would likely lead to them selecting a white straight male. So while the intention is slightly different, the end result would be the same as the old eugenics because the hatred of non-white straight males could evolve as more and more parents select white straight males. Sparrow writes, “As soon as we begin sacrificing the well-being of individuals for the sake of social goals, such as diversity, we are firmly back in the territory of the old eugenics” (Sparrow 35-36).

We often get a bad taste in our mouths when we hear the word eugenics. We think back to the horrors of the Nazi party and therefore want nothing to do with it. But just because the

Nazis executed their eugenic goal in a terrible way does not mean that eugenics is always wrong. Brock, Daniels, and Wikler write,

Reflexive rejection of eugenic ideas because they had unsavory advocates is neither morally nor intellectually serious. What matters is the moral defensibility of the eugenic concepts and values themselves, which must be identified and assessed (B, B, D&W, 45-46).

They explain that the core belief common to all eugenicists was concern for human betterment through selection. Eugenicists wanted to ensure that the humans who come into existence in the future will be capable of enjoying better lives and of contributing to the betterment of lives of others, a goal that is not so difficult to get behind. (B, B, D&W, 42). Through a deep analysis of eugenics, they find that much of the bad reputation of eugenics “is traceable to attributes that, at least in theory, might be avoidable in a future eugenics program” (B, B, D&W, 43). The main issue with the old eugenics was the way it was implemented rather than its moral foundation. But, they still believe that the problems of social justice and fairness that reduced the moral stature of eugenics previously will be just as difficult in the future decades (B, B, D&W, 43). For example, it is likely that those that are genetically healthier can exclude others and even profit from doing so. They explain that ignorance of genetic differences provides a sense of common fate, and that genetic interventions can threaten that (B, B, D&W, 59). Thus, even though the eugenic goal was not so terrible in its nature, we should still try to avoid a eugenic future because of the reasons Sparrow suggests. We do not want to live in a world where parents are pressured to have straight, white, sons. If we did, it would be even more difficult than it is today for non-straight white males to be treated fairly and succeed in society.

Sparrow explains that consequentialism, the view that we should minimize the amount of unnecessary suffering in the world and is prominent in Savulescu and Kahane’s paper, would

tell us to use PGD (pre-implantation genetic diagnosis) to prevent the birth of children with severe disabilities. It would also imply that “we should select a healthy child for the same reason we would act to prevent harm to an existing child—in order to minimize the amount of unnecessary suffering in the world” (Sparrow 34). He writes that it would be difficult not to think that parents do something wrong if they are offered the choice to use PGD to identify and select against embryos suffering from a serious genetic disorder and choose not to do so (Sparrow 34). But there is a difference between avoiding disease and pursuing eugenic aims (Sparrow 34). The consequentialist view that Savulescu and Kahane endorse has terrifying eugenic consequences.

Sparrow explains that because the prospects for an individual’s flourishing is a function of interaction between genes and environment, advocates for genetic enhancement argue that our obligation to manipulate certain genes is the same as our obligation to manipulate the environment and arises “out of a concern for the implications of our child’s phenotype for his or her welfare” (Sparrow 35). Savulescu and Kahane’s argument is based on the idea that we are creating comfortable environments for our children already, so why shouldn’t we be able to choose which genes are best for our children? (S&K, 276-277). But when thinking about environmental factors that will impact our future children, we mustn’t forget social factors such as racism and sexism (Sparrow 35). Many times social factors such as these have a much greater effect on children than other environmental factors such as the financial stability of the family. So if parents are trying to create the children with the best chance of the best lives and they think that both genes and environment matter, it follows that they would take these social

factors into account (Sparrow 35). Taking these social factors into account when using genetic engineering technology can lead to eugenic aims.

If parents are trying to choose the child with the best possible life, and the world that child will be born into is a racist one, it would follow from PB that the parents should choose the child that is least likely to be discriminated against due to their race. It would also follow that the parents would be more inclined to choose a male over a female, because in many societies men are prioritized over women. Sparrow writes that based on Savulescu and Kahane's argument, the overarching population of Europe, North America, and Australia, would be straight, tall, white men (Sparrow 35). Savulescu and Kahane attempt to show that PB opens up space for diversity, but when analyzed more deeply, it becomes clear that "the logic of a concern with improving the wellbeing of future persons points toward quite a different conclusion—that, in any given environment at least, there is a "best" genome, which parents are obligated to provide for their children" (Sparrow 36).

While my view that we should avoid unnecessary suffering runs into the same "best" genome problem, my "best" genome would be based on the healthiest genome, not on the genome that would fit the best in the current social environment. My view about avoiding unnecessary suffering is based around health because a base level of health is not directly related to the current social climate. My "best" genome would have nothing to do with the given environment, unlike the potential "best" genome Sparrow describes. Designing children based on what would "fit" in the world is different than choosing the healthiest children. Rivka Weinberg, in her article, *What's Wrong with Selecting for Maleness or White Skin*, argues that while having a trait that people discriminate against such as black skin can be difficult, this is

only because of the already prevalent racist ideas in society, not because of the trait itself. She writes that we should target sexism and racism rather than perpetuating it through the use of PGD or other genetic technologies, because “being sexist or racist is wrong, and moreover, perpetuating or participating in bigotry is bad for everyone (Weinberg, 1). I fully agree with Weinberg’s point. Using genetic technologies to have babies that are the least likely to be discriminated against is like taking Advil for chronic migraines-- a temporary solution that does not target the real problem. The real problem is our racist and sexist society, not the traits our society targets.

If genetic enhancement technologies become readily available, then parents will likely feel intense pressures to use them, because if they don’t, their children will inevitably be considered worse than the children that were genetically enhanced (Sparrow 40). Besides the fact that some may not be able to afford the technology, we must keep in mind that parents could decide that the “best” for their child would be to not interfere with their genes at all. We could see parents making that decision in today’s society, but in a society where most others are genetically enhanced, would those parents still be able to make that decision? In my view, it seems that while PB presents itself as allowing parents to choose what is considered the best life, it does so only in the context of the world that PB would create. If a PB based society would look down upon parents that think that the best life for their child would be one free of genetic enhancements, would these parents *really* be able to choose that route?

I think that in a genetic enhancement friendly world, the parents that are pro-enhancement as well as the enhanced children could bound together to form a group of people who do not just *think* they are better than everyone else, but genetically are. This could be even

worse than the old eugenics, in which case groups such as the Nazis thought they were better than others for no real, scientific reason. It is likely that if genetic enhancement technologies became readily available, the idea of what is considered “normal” will shift towards a genetically enhanced human. If this happens, those that are genetically enhanced could consider those that are not to be almost disabled. In this type of society, the genetically enhanced people could be inclined to remove the non genetically enhanced people from the world entirely. Therefore, it seems that a new eugenics could lead to consequences similar to the old.

#### Section 7: The Disability Objection

Elizabeth Barnes, in her paper, *Valuing Disability, Causing Disability*, presents some objections to Savulescu and Kahane by explaining the “mere-difference” view of disability (Barnes, 89-90). Barnes explains that a “bad-difference” view of disability states that disability on its own is something that makes you worse-off even if society was fully accommodating of disabled people, and that the “mere-difference” view denies this (Barnes, 89). According to the mere-difference view of disability, having a disability makes you different, but doesn’t by itself make you worse off overall (Barnes, 89). She believes the only reason people with disabilities are worse-off than non-disabled people is because of the way society treats them (Barnes, 90).

It is important to note that according to the mere-difference view, the well-being of disabled people is usually lower than that of nondisabled because of the way society treats disabled people, not because disability is intrinsically bad (Barnes 90). According to the mere-difference view, disability cannot be considered a loss or a lack of something, because while a

disability causes you to lose out on some goods that nondisabled people have, it also allows you to participate in other goods that nondisabled people cannot have access to (Barnes, 90).

Barnes explains:

A defender of the mere-difference view can grant that the ability to hear is an intrinsic good. And it is an intrinsic good that Deaf people lack. But there might be other intrinsic goods—the unique experience of language had by those whose first language is a signed rather than spoken language, the experience of music via vibrations, and so on—experienced by Deaf people and not by hearing people. Deafness can involve the lack of an intrinsic good without being merely the lack of an intrinsic good (Barnes 90).

Barnes brings up an interesting point here. Why do many people consider a person who is nondisabled to be objectively better off than a person who is disabled?

While this is a thought provoking argument, I have to disagree. Of course there are goods that disabled people have access to that nondisabled people do not, but I do not think that in this case it makes sense to weigh goods in relation to disability like this. A disability is something that *takes away*. Disabilities cause people pain and difficulty. Yes, disabled people have access to certain goods that nondisabled people do not have access to and those goods are clearly unique and wonderful. But there are so many unique and wonderful goods that nondisabled people have access to that disabled people do not. The difference is, non-disabled people do not have to deal with the pain that certain disabilities come with, which I think makes them better off from the day they are born. A blind person could recount how amazing it has been to have a blind community provide them with support, but a non-blind person could talk about how amazing it is to have some other community they are a part of provide them with support, as well as talk about how amazing it is to see color. There is an infinite amount of good a person can have in their lives. While we could say the same about pain, I think in this case, it is clear that a blind person experiences more pain, while maybe not direct physical pain,



than a non-blind person. Lacking the natural human ability to see poses great challenges to living a life of human flourishing, in ways that being sighted does not. When a person is blind, they are unable to drive, have a harder time doing every-day tasks like cooking, and have a much harder time communicating with others. People often communicate through their body language, and a blind person would be unable to recognize important bodily signals. In my view, people with significant limiting or painful disabilities do not have enough other goods to make up for the goods that their disability causes them to lose.

Besides the fact that disabled people have a more difficult time in their every-day lives, when we look at cures and treatments being offered to disabled people, we notice that almost all with conditions that are able to be cured or treated are more than happy to accept them. This shows that while some disabled people are completely fine with their condition, many if not most would willingly choose to live without it.

Followers of the mere-difference view would object to me here by saying that the reason it is harder to be disabled than it is to be nondisabled is because the society we live in is not accommodating to disabled people. Let's say this wasn't true, and somehow society was accommodating to every single type of disability that existed. First of all, this seems quite impossible. There are too many different kinds of disabilities in the world for there to be any way to set up the world in such a way that every single disabled person was accommodated for. There are some disabilities such as chronic heart problems that society would have a difficult or impossible time accommodating. But, if it was possible, according to the mere-difference view, the playing field between disabled people and nondisabled people would be close enough that it would not matter very much (Barnes 90). But would that really be the case? Can we really say

that if society was accommodating to someone with a limp, then people with limps would be *no worse off* than people without them? Having a heart disease that causes multiple heart attacks is uncomfortable, on its own. Having constant back pain that prevents you from handling day-to-day activities is difficult, *on its own*. It seems nearly impossible to set up society in a way that could accommodate for everybody's own physical pain. What could we immediately do besides have the person with back pain check into the hospital and get treated?

Barnes tells us to imagine a case in which a child will 100% turn out to be gay, and the parents have the option of making the child straight instead, because being gay is a greater challenge to well-being than being straight. It is undoubtedly more difficult to be gay than straight in today's society, so the parents have an incentive to make the change. Barnes explains that while any gay child will have to deal with homophobia and any disabled person will have to deal with ableism, the parents of the gay child can take steps to mediate the bad effects of homophobia. The parents of the gay child can do anything in their power to raise the child in a homophobia-free environment. While the parents of the disabled child can try to do the same, it would be harder, because "in the case of disabilities the issues facing their child will be access to basic services and navigation of basic social interaction" (Barnes 102). Barnes further writes, "there is a limited amount that individual parents can do to mediate this. They can tell their child that she's valued just the way she is, but they can't make buildings accessible and they can't make people less awkward around her" (Barnes 102).

Making a gay child straight before they are born would, in today's society, be considered to be homophobic. Barnes questions why this would be considered to be wrong by people but

making a disabled child nondisabled would not be. Both having a disability and being gay lessen a person's overall level of well-being (because of the way society treats them).

Barnes is right about one thing—one reason a gay person's life is harder than a straight person's life is because of the way society treats gay people. In relation to homosexuality, society is the *only* thing that makes a gay person's life worse than it would have been if they were straight. This is not the case with disabled people. Disabled people have to deal with both the pain and inconvenience of their disability *as well as* the way society treats them because of it. In relation to disabilities, there is both a natural component and a social component. In relation to homosexuality, there is *only* a social one. Even if society were to be perfect, it would still be difficult for someone in a wheelchair to deal with the fact that they can't run anymore.

#### Section 8: 'Life is a Gift' Objection

Savulescu and Kahane argue that if we accept and encourage parents to do what they can to improve their children's lives and prospects, then we should similarly accept genetic enhancements (S&K, 276-277). Sandel explains that while this is true, there isn't that much of a difference between wanting to improve your child's life in a genetic enhancement or non-genetic-enhancement way, the issue at hand is a different one. Sandel believes that performance-enhancing technologies, genetic or otherwise, "animate the impulse to rail against the given" (Sandel 61). By 'the given,' Sandel is referring to the way people come into the world, especially the ways in which a child comes to its parents as a given, with traits that are not directly chosen. He admits that while those who argue that bioengineering is similar to other ways parents shape their children have a point, this gives us a reason to question rather

than accept and move forward with these intense child-rearing practices. By accepting these practices, we forget to treat the sense of life as a gift. He believes this to be the deepest source of the moral trouble with enhancement. (Sandel 61).

The first way Sandel explains this is through athletics. He explains that while effort and hard work is important in sports, natural talents and gifts are important as well. He writes,

The real problem with genetically altered athletes is that they corrupt athletic competition as a human activity that honors the cultivation and display of natural talents. From this standpoint, enhancement can be seen as the ultimate expression of the ethic of effort and willfulness, a kind of high-tech striving. The ethic of willfulness and the biotechnological powers it now enlists are both arrayed against the claims of giftedness. (Sandel 29).

There are two main components to being good at a sport—natural talent, and the effort that one puts in. Sandel’s problem the use of genetic technologies to improve athletic ability stems from the fact that it would add a new level to the effort part of the equation. It could become the case that people see the use of genetic technology as what he describes as “the ultimate expression of the ethic of effort and willfulness” (Sandel 29). Adding another layer to the ethic of effort and willfulness would fight even harder against giftedness, which he finds to be a problem. While it could appear that the use of genetic enhancement technology is the ultimate act of hard work—I see it as the opposite. Access to genetic technologies would depend mostly on one’s financial status, and while there are some who have worked hard for their wealth, there are many who haven’t. While financial status can be directly relevant to a person’s success in sports (players can train more if their parents have more money), I don’t think that financial status should have anything to do with the hard work aspect of sports.

Sandel writes that if on top of attempting to improve performance through steroids, special diets, and other rigorous training regimes, athletes had access to genetic

enhancements, our idea of sports will completely change (Sandel 36). If watching sports simply entailed watching athletes do everything almost perfectly, people would no longer find sports that interesting to watch. He thinks that the entertainment part of watching sports stems from the drama of seeing even the best of players make mistakes (Sandel 36). If this is taken away, which it would be if everyone started using genetic enhancement technologies, Sandel believes that sports would merely become a spectacle (Sandel 36). Of course, players would still make some mistakes, but they would be few and far between. Sandel explains that spectacles “depreciate the natural talents and gifts that the greatest players display” (Sandel 36). In response to Sandel, I would argue that players will continue to make mistakes, just at a higher level of play and with greater skill. It seems unlikely that in a sport such as basketball in which players are competing against each other players would make only few mistakes. Would genetic engineering technologies really change sports *that* much in the way he describes? Or would the average level of players simply increase? The bigger issue to me lies in the fact that only some would be able to afford these technologies.

Sandel argues that genetic enhancements would change any type of performances entirely. If viewers are watching because of the attention grabbing feature of a sport, they would be watching simply to get immediate pleasure, and would no longer recognize natural gifts and talents. Sandel’s argument rests on the idea that the natural gifts and talents that exist must be recognized. He writes, “If bioengineering made the myth of the ‘self-made man’ come true, it would be difficult to view our talents as gifts for which we are indebted rather than achievements for which we are responsible” (Sandel 86). Parents would become responsible for choosing or failing to choose the ‘right’ traits for their children. He explains that if a basketball

player misses a rebound today, his coach can blame him for being out of position, while in a world where genetic enhancements were readily available, his coach can blame him for being too short (Sandel 87).

When natural ability in sports is depreciated, the sport is depreciated as well. Let's say there are two people on the basketball court, Michael Jordan and a genetically engineered player, who would be solely average if he was not genetically engineered. Both players make the exact same number of hoops in the game. Based on the rules of the game, the genetically engineered player would be seen as just as good as Michael Jordan. But can we really say this is the case? If without genetic technology the other player would just have been average at basketball, how can we *really* believe the two players deserve the same amount of respect and appreciation?

One could respond to me by arguing that a parent's decision to make their future child incredible at basketball is not much different than a person being naturally born incredible at basketball. People are born with natural abilities that give them unfair advantages all the time, so why can't we intentionally create these abilities ourselves? This is a valid response, but I believe that a genuine and natural ability is more truthful in its nature, and thus deserves more appreciation. The reason it seems more truthful in its nature is because a parent creating an ability for their future child is an intentional *action*, and therefore seems superficial. This action that the parents take to give this ability to their future child will cost money, and will likely not be available to everyone. While the natural lottery of abilities is random and seems unfair, it cannot be as unfair as certain people having access to changing their future children's abilities due to their financial or any other status. It is difficult to appreciate a great basketball player

knowing that he would not have been so great if his parents did not pay to alter his DNA before he was born.

Sandel takes his argument further by relating it to education and the pressures that parents put on their children to succeed academically. Sandel admits that improving children through genetic enhancement is similar to the high-pressure and overly controlling practices relating to hyper-parenting that already exist such as parents writing their children's college applications, phoning to badger the admissions office, and staying overnight in college dorm rooms (Sandel 54). Parents are already trying to make their children perfect in every way they can, putting way too much pressure on them. If parents have access to genetic enhancements technologies, they will take their hyper-parenting even farther by trying to create children with perfect genetic codes. When parents try to make their children perfect, they spend too much time trying to improve them in every way possible and less time accepting, loving, and spending time with them. Sandel explains that this similarity doesn't vindicate genetic enhancement, but rather "highlights a problem with the trend toward hyper parenting" (Sandel 52).

Hyper parenting appears to be its own extreme sport. College administrators are coming forward about how much of a problem parents wanting to control their children's college lives has become. Educational psychologists report that growing numbers of parents will do anything to have their high school junior or senior diagnosed with a learning disability such as ADHD for reasons such as getting more time on the SAT (Sandel 54-55).

As getting into and succeeding at the most prestigious colleges becomes more and more competitive, some students will do anything to get to the top. Sandel notes, "Over the past fifteen years, the legal production of Ritalin increased by 1,700 percent, and the production of

the amphetamine Adderall, also marketed for treatment of ADHD, rose 3,000 percent” (Sandel 59). These drugs are not just being prescribed to high school students. Prescription rates for two- to four-year old children nearly tripled from 1991 to 1995, Sandel writes (Sandel 60). These extreme pressures caused by parental misconceptions of reality that are evolving in American life are changing expectations that parents have for their children, as well as increasing the demands that are placed on children to be the best (Sandel 58). The accessibility of genetic enhancements would make hyper-parenting worse than it already is because expectations of children would be *even* higher if parents took the time and spent the money to genetically enhance them. Parents would expect their children to be the people they wanted and designed them to be. This “misses the sense of life as a gift” (Sandel 62). By showing that genetic enhancements would only make the issue of hyper-parenting worse, Sandel presents us with an original and thought out reason why we shouldn’t genetically enhance our future children.

While specifically with sports, genetic enhancements threaten the appreciation of natural ability, a general problem with designing children is that it threatens the sense of life as a gift. Sandel believes that if our appreciation for the gifted character of human powers and achievements is eroded by the genetic revolution, it will affect three key features of our moral society—humility, responsibility, and solidarity (Sandel 86). Because parents care so much about their children but are unable to choose the kind they want, they are taught to be open and accepting. He writes that genetic enhancements “deprive the parent of the humility and enlarged human sympathies that an openness to the unbidden can cultivate” (Sandel 46). Also, if we were to view our talents and gifts as achievements for which we are responsible, it would



be much more difficult to remain humble (Sandel 86). Sandel writes, “As humility gives away, responsibility expands to daunting proportions. We attribute less to chance and more to choice” (Sandel 87). If this were to happen, parents and children of parents would become much more easily blamable. Also, the more we are responsible for our own fate and that of our children, the less our sense of solidarity with those that are less fortunate than us will become. According to Sandel, genetic enhancements would “make it harder to foster the moral sentiments that social solidarity requires” (Sandel 91). He believes that a good answer to the question, ‘Why do the successful owe anything to the least advantaged members of society?’ is that the natural talents and gifts that we are born with are due to our good fortune and not to our own doing. If genetic endowments are gifts rather than achievements that we can claim credit for, it would be wrong to assume that we are “entitled to the full measure of the bounty they reap in market economy” (Sandel 91). Because of this, Sandel thinks we have an obligation to share this bounty with those who lack comparable gifts (Sandel 91).

Designing children also threatens the relation between parent and child. Dena Davis, in her paper, *Investment Factor and the Child’s Right to an Open Future*, writes that parents so fixated on the importance of having a specific child will find it very difficult to be open to their child’s own interests and natural direction (Davis 24). If parents spend a lot of money and invest a lot of time and effort in order to have a specific type of child, they are “likely to feel *entitled* to the desired result” (Davis 24). When parents feel entitled to their child being good at sports, and their child prefers painting instead, the relationship between parent and child is threatened significantly.

Sandel explains that parental love has two aspects: accepting love and transforming love. Accepting love affirms who the child is, whereas transforming love seeks the well-being of the child. Recently, parents have been focusing way too much on transforming love and not enough on accepting love. Genetic enhancement technologies would only further this. Parents that are too focused on creating a perfect child will most likely express attitudes that will separate them further from unconditional love (Sandel 49-50). It is vital for a child's mental and emotional health to know that their parents accept them. Genetic enhancements will make worse the way some parents see their children as a means to an end, rather than a complex and individual person.

#### Section 9: Equality

In this section, I discuss the potential impact that genetic engineering may have on equality. According to Thomas Scanlon's brute luck view, described in *From Chance to Choice*, "persons should not have lesser opportunities due to how they fare in the social lottery—whether born into a poor, uneducated family, and so on, regardless of whether the limitations on their opportunities originate in unjust institutions" (B, B, D&W, 67). Based on this view, equal opportunity requires efforts to counteract the effects of all factors that are beyond one's control (B, B, D&W, 67). Scanlon's brute luck view is appealing because it seems unfair to many that some should have fewer opportunities due to factors over which they have no control—circumstances that have nothing to do with their personal choices. This is clear in the case of Tay-Sachs disease, which causes a person a lot of suffering and leads to death at an early age. As a society, we recognize an obligation to use medical interventions in order to cure or

attempt to cure seriously disabling disorders (B, B, D&W, 70). Buchanan, Brock, Daniels, and Wikler write, “If a baby is born with a hip deformity, for example, an effort will be made to marshal social resources to pay for surgical repair of this condition if the parents lack health insurance and cannot afford to pay the surgical bill (B, B, D&W, 70). They explain that a compelling justification for attempting to subsidize this procedure is that it is necessary in order to remove a serious obstacle to opportunity. Some of our most basic social institutions “reflect a commitment to intervening in the natural lottery for the sake of equal opportunity, at least when it is a hereditary or congenital disease that threatens opportunity (B, B, D&W, 70). If we are already trying to promote equal opportunity through the intervention of the natural lottery, wouldn’t it follow that we should use genetic interventions to further this cause?

While Scanlon’s brute luck view is important in the discussion of equality, we must ask ourselves: why do we seek equality in the first place? Elizabeth Anderson, in her paper, *What is the Point of Equality?*, gives us an answer to this question. She explains that egalitarian political movements in the past have fought against inequality because it created superior and inferior persons (Anderson, 312). She writes,

Those of superior rank were thought entitled to inflict violence on inferiors, to exclude or segregate them from social life, to treat them with contempt, to force them to obey, work without reciprocation, and abandon their own cultures (Anderson, 312).

When unequal social relations exist amongst people, they generate inequalities in the distribution of freedoms, resources, and welfare (Anderson, 312). Genetic engineering technologies would threaten our ability to function as equals in society free of oppression. If some people are able to pay for genetic technologies and others aren’t, inequality in society would increase greatly, as would the consequences that Anderson mentions above. There is no

way the government would be able to provide genetic engineering technologies to everyone—it cannot even provide healthcare to everyone. Because it is unrealistic that everyone will have access to genetic technologies, the inequality gap would inevitably increase.

#### Section 10: Conclusion

It seems that if everyone tried to create the child with the best chance of the best life, many different types of problematic issues would arise, issues that we as a society would not be prepared to deal with. Our world may start to have eugenic-like aspects, people with disabilities could be negatively affected, parents could start to see their children as means to ends rather than individuals, and more. As our knowledge of genetic technology grows, we must not forget our ethical values. We want our children to be capable of pursuing their interests without creating a dystopian society, and we want them flourish. Our goal with genetic engineering should not be to create a world with perfect people, rather it should be to create a world with healthy ones.

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