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BioC258

12/2/13

An analysis of the principle for procreative beneficence

In her novel, *Allegiant*, Veronica Roth describes a haunting, dystopian future in which society is split into the Genetically Impure and the Genetically Damaged. An attempt to enhance the populace's genes accidentally led to genetic damage and mass chaos and destruction. While this is purely science fiction, genetic engineering is nearing the point at which attempts at genetic enhancement of future generations may be possible, thus necessitating debate over the ethics of exerting so much control over the genome. Julian Savulescu, an Australian philosopher and bioethicist, has proposed the principle of procreative beneficence (PPB) which holds that "when a couple plans to have a child, they have significant moral reason to select, of the possible children they could have, the child who is most likely to experience the greatest wellbeing – that is, the most advantaged child, the child with the best chance at the best life" (1). In this paper, I will present the history of eugenics leading up to this modern day debate over the degree to which parents should exert control over the genetics of future generations.

The term eugenics was originally coined in 1883. Twenty years later, inspired by a renewed interest in Gregor Mendel's research into genetic inheritance in pea plants, scientists turned this genetic research toward eugenics, then considered a mathematical science that could be used to improve the species through manipulating humans with the best possible genes to reproduce and improve the species. Eugenics became exceedingly popular, featuring many organized societies and family competitions at fairs, but also a darker side of racial undertones and the prevention of breeding among people considered inferior (2). Eugenics remained the reigning school of scientific thought until the horrific experiments of the Nazi scientists were revealed after World War II (4).

Now, with the gains science has made, we are faced with decisions about a new "liberal eugenics" and all of the related ethical and moral questions. Liberal eugenics is described as 'liberal,' 'individualized' or 'commercialized' eugenics and considered distinct from traditional eugenics in that it is not state-controlled or enforced but rather it is based around the individuals' reproductive choices (8). Even without the presence of government mandates over genetic decisions or the racial bent of old eugenics, there remains a significant debate over whether the decision Savulescu advocates, the obligation to weigh the various possible genetic fates of one's offspring and choose that which would lend them the best possible life, is appropriate or if exercising this much control over reproduction could lead to the realization of social Darwinism, allowing the prosperous to prosper more while the condition of the weak declines (7).

With the ability to conduct prenatal testing, it is already possible to detect things from as simple as the sex of the fetus to whether or not it will have Down syndrome. Currently, 90% of prenatal tests revealing a positive test for Down syndrome are followed by termination of the pregnancy. Ross Douthat of The New York Times thinks that "it is hard to imagine that more expansive knowledge won't lead to similar forms of prenatal selection on an ever-more-significant scale" (4). Savulescu takes this prediction one step further and poses that there is a moral obligation to use that more expansive knowledge to perform prenatal selection based on as many factors as may be determined.

With preimplantation genetic diagnosis (PGD), prospective parents can test embryos for possible disease states or sex prior to in vitro fertilization. While it is not yet possible to test for non-disease states other than sex, Savulescu proposes that, when these other factors become testable, prospective parents should choose the embryo which fits the optimal case for any and all testable factors. For example, if a couple were choosing between embryos A and B and the embryos were otherwise indistinguishable aside from the fact that embryo A would likely develop asthma while embryo B would not, PPB would dictate that the parents have a moral obligation to choose embryo B, as that would result in the child with the greatest wellbeing (5). While this principle, at its most basic level, seems logical and generally morally sound, so long as one is morally okay with casting aside the embryo(s) not chosen, there are a number or questionable aspects, particularly when the greater scope of the subject is considered.

Peter Herissone-Kelly suggests an alternative standard to Savulescu's principle of procreative beneficence (6). Herissone-Kelly proposes a principle of acceptable outlook (PAO). He feels that there is no objective reason to choose a better life embryo over a worse life embryo, as there is no way of knowing what the ultimate effect any combination of genes will have on wellbeing, but that there is a line that should be drawn where the quality of life below that line is not what the parent deems acceptable for their prospective child. If applied to the previously mentioned case of embryo A with asthma versus embryo B without, PPB would obligate the parents to choose embryo B, while PAO has no particular preference, so long as asthma was not considered an unacceptable level of suffering for the child. The principles diverge further when we consider a case where no embryos would result in a sufficient quality of life, with that cutoff determined by the parents. In this case, PPB would simply have the parents choose the best outlook available while PAO would not permit any of the embryos to be selected.

While the choice is based on different criteria, both principles require that a decision be made in judgment of quality of life – either based on what constitutes a superior life or what life is considered too inferior for prospective parents to allow it to happen. Savulescu attempts to address concerns that the moral obligation to choose the possible child with the best quality of life is implicitly placing judgment on the quality of life of living people. He states that PPB "does not necessarily imply that the lives of those who now live with disability are less deserving of respect and are less valuable. To attempt to prevent accidents which cause paraplegia is not to say that paraplegics are less deserving of respect" (5). However, it is hard to imagine that a society where certain genetic qualities were marked as inferior and selected against would not lead to the perceived inferiority of individuals in possession of those genes.

The increasing incidence of genetic screening will bring a host of other problems that feature in this debate. The diversity of the population could decrease dangerously if prospective parents collectively choose children with similar, superior genes. Through the use of genetic screening, wealthy families would be able to choose genetically superior children, placing a further divide between themselves and poorer families and thus introducing a new form of social Darwinism. With these potential harmful consequences to society as a whole, it seems likely that governments would see a need for legislation on the practice of ‘liberal genetics.’

Bioethicists offer reassurance throughout this debate that the use of these kinds of genetic technologies is not in danger of slipping into the patterns of the ‘old eugenics.’ While those eugenic practices were often state-mandated and forced upon the populace, this new form of eugenics is in private hands, at least at this stage in time. It is a suggestion, maybe an obligation, they say, but not open to coercion – Savulescu asserts that prospective parents shall maintain procreative autonomy and be merely provided with genetic information and knowledge of their risks and options, then left to make their own decisions (5). However, Robert Sparrow takes a less positive stance on the private, personal nature of genetic screening and selection of prospective offspring. He states that “should it become possible to achieve significant improvements in human welfare via genetic human enhancement, the pressure to coerce those individuals who wish to refuse such enhancements for their children may well, as I have argued, prove irresistible” (7). Even Savulescu, while he claims that prospective parents should not be coerced into making one choice over another, only guided and advised, supports the idea of some legislation over genetic screening when deemed necessary.

It is not immediately clear who stands on the right side of the debate. Do prospective parents have the obligation or even the right to make a judgment call of what characteristics result in a superior quality of life for their child? Are they also to be trusted with deciding which conditions make life not worthwhile? Are the risks of dividing society into classes and reducing the diversity of genes in the populace worth the gain of fostering a next generation with hand-selected genes? The debate over what liberties may be taken with genetic decisions is an important one to have as our technologies improve and move towards a future where these kinds of designer babies are possible.

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