

Genetic Engineering and Medical Ethics: The Case Study and Making a Position

Genetic engineering has been growing rapidly in the twenty-first century, and this has added to the growing controversy on ethical limits of changing human biology. Simultaneously, when the scientific community can experiment with these experiments previously perceived as science fiction by creating CRISPR-Cas9, the technology has brought to bear a social reckoning concerning moral concerns of freedom of choice, fairness, and boundaries of human activity. The phenomenon of genetic engineering has been debatable before. However, the emergence of the growing specificity and the accessibility of the technology raised these questions to a higher level of urgency. Despite the high potentials of genetic engineering that can ensure elimination of hereditary disease, improvements must not under no circumstance should not take away the autonomy, social equality, and pose harm in the long term.

Genetic engineering is divided into two broad categories: therapeutic genetic engineering, which aims to prevent or cure diseases and genetic engineering, which develops the human trait to an even higher level than the one provided by medical advancement. Most of the arguments in the field of medical ethics take their basis in these two branches (Kurzweil 39). The main issue is whether humanity has to tamper with its genetic makeup of themselves or their generations to come.

Supporters of genetic engineering argue positively are generally utilitarian in their arguments in that, as long as a given technology can reduce the pain or produce better than it is morally right. Other theorists like Julian Savulescu hold to the idea of procreative beneficence, whereby parents have an ethical duty to choose the healthiest child that they can, based on genetic factors, in case the technology is available. From this point of view, the fact that the

prevention of such hereditary diseases is not possible. The proponents of gene modification encompass Huntington disease, cystic fibrosis, sickle cell anemia, and muscular dystrophy, which are one-gene disorders, and in theory, they can be treated in the womb. The authors cite clinical evidence of its efficacy: CRISPR-based therapies have already demonstrated a potential efficacy to correct genetic defects in adult patients with sickle cell disease (De Santis et al. 42). The believers of therapeutic genetic engineering consider therapeutic genetic engineering as a logical continuation of modern medicine. The same means that preventive measures, such as vaccines, prevent illness, and that surgical treatments remedy conditions that are maladaptive; gene modification helps in a more fundamental, profound manner.

The genetic engineering is perilous as it predetermines individuals to treat future births as objects to be manufactured rather than individuals who stand upon their very own ground. They assert that it is tampering with the sovereignty of those, who will become but were not consulted in the fiddling with their genetic compositions, in manipulating the embryos or any other cells, which will be passed on to their future generations (Vafai 46). There is also the issue of justice: genetic technologies may turn into an exclusive prerogative of wealthy families and contribute to social ideology and hierarchy, and a genetic divisive system, with more successful human beings having social, physical, or intellectual advantages simply because their families could afford genetic technologies. This raises the question of injustice and racism (De Santis et al. 55). In this perspective, it is highly problematic that in this type of genetic engineering, as with increasing height, intelligence, looks, or sportiness, the enhancement genetic engineering is now past the curing phase and nears locutionary.

Besides these, the critics also refer to the vagueness of the long-term effects. Not anticipated, there can be ripple effects of genetic modification. It is also possible to have a bad

characteristic gene that may be associated with other positive traits, and that any alteration towards it may result in the emergence of new complications. Germline edits affect the forthcoming generations, and thus any mistake is incorporated and included in the human gene pool (Vafai 83). Thus, the advocates of the critics promote an ultimatum of precaution, control, or prohibition of non-essential genetic engineering. The intermediate between these two extremes is a highly controlled, and yet not enforced, therapeutic use (Kurzweill 52). Many bioethicists and policymakers adhere to this position by pointing out that gene modification should be based on the principle of medical necessity, equity, and long-term population safety.

Based on the evidence, my personal ethical theory and practical implications would reflect, that therapeutic genetic engineering should be free and legalized enhanced genetic engineering should be prohibited. I would support genetic engineering in using medicine as it has life-changing benefits and it goes directly to the agony of human beings. The experience with CRISPR in modifying the genetic mutations in beta-thalassemia and sickle cell disease has shown that gene modification has a massive potential in changing the health condition of the patients and making them live a disease-free life, as it was previously the case in their lives. Author Ray Kurzweill elaborates on this progress, “The diverse field of biotechnology is fueled by our accelerating progress in reverse engineering the information processes underlying biology and by a growing arsenal of tools that can modify these processes” (212). This assists in a utilitarian instance of its application: the diminution of suffering is a legitimate and acceptable kind of moral activity. Moreover, therapeutic gene modification is not against the principled of beneficence, which is another concept of medical ethics that medical professionals should act in that manner so that they can improve the well-being of their patients.

Nevertheless, as far as my judgment is concerned, enhanced genetic engineering is pushing very narrow ethical boundaries. It ceases to be curing but creating as the parent-child relationship becomes a parent child project and product (Joy 50). When a parent picks an intelligent baby or a beautiful baby, it is not always with selfish intentions that the parent chooses to end the freedom of the coming child and impose the traits based on the desire of the parents, rather than the freedom to develop an identity, that will grow naturally.

The improvements are also threatening social equality. With the case of betterment being an expensive business, only accessible to the wealthy, society will be divided into biologically advantageous groups. This is the result of inequality that perpetuates in the same historical trend, but now more enduring or even biological. This goes against the justice and fairness in ethics (Kurzweill 84). Even though improvement had been regulated, it is subjective and can be culturally biased or destructive to come up with what is regarded as an improvement.

Accordingly, the moral society to suit the greater good and freedom of the population is the system that condones therapeutic genetic engineering and frowns upon enhancement. This is a position against the power of science; a position that concedes responsibility that accompanies it. Although genetic engineering may be considered as abstract or distant phenomenon, ethical dilemmas that are associated with genetic engineering have several effects on my life. Firstly, I live in an era in which medical technologies are evolving so fast that the decisions I make today would potentially affect the healthcare decision-making of my future family, my neighborhood, or even my offspring. The possibility to acquiring the ethical limits to such technologies will enable me to project into the future to what kind of society I would be able to live in, which would be the society of fairness, autonomy, and empathy.

On the personal level, the therapeutic gene modification gives hope. Like any other person, I am quite well aware of people with disorders. This lightens me up to scientific development as I can envision the world in which illnesses like cystic fibrosis or muscular dystrophy will be cured. I can also relate to those families that believe that the empowerment to do gene modification is a lifesaver. Hypothetically, in a scenario where there existed a technology that would spare a loved one more suffering years, then I would say it should be looked at, but it must be the case that it should be safe and under ethical checks.

In the meantime, I am deeply convinced that identity does not have to be created. I would not prefer a world where individuals have to go to school to enhance their children so that they can fulfill the unrealistic expectations. This panic is converted to a personal panic after I begin to think of the successive generations that will grow up in an environment filled with passion for what it means to be perfect. It creates values and uniqueness, fear, and social pressure. Genetic enhancement would spell out a condition where individuals would only value themselves on the basis of the qualities formed in their genes and not on the multiple well-knownness, character, and experiences they possess.

Speaking about genetic engineering, it reminds me of my personal values, as well: I think of human attitude, equality, and respect for human personality. It is the values that make me tend to use genetic technologies, which will reduce suffering. However, I also believe that it is atrocious to use genetic technologies which can deepen inequality or wipe out human dignity. Genetic engineering and medical ethics controversy is a complex matter depending on the perspective on human betterment, autonomous choice, and responsibility. The current benefits are that it can potentially lead to disease elimination, and former critics refer to inequality, safety, and ethical mistreatment. Author Bill Joy demonstrates on inequality, "If, for example, we were

to reengineer ourselves into several separate and unequal species using the power of genetic engineering, then we would threaten the notion of equality that is the very cornerstone of our democracy” (8). The decision that I would arrive at between scientific advancement and ethical duty creates a balance of enhancement and therapeutic modification by the stance of conditional acceptance or non-acceptance. To sum up, the question of this debate is of high importance to me because, depending on its outcomes, I will live in the world of this or that kind, the degree of justice of emerging societies in the world of the next era, and what the human race will become beyond the technological advances.

Works Cited

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