

Is Political Consensus on Genetic Science Possible?

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Ethics and genetics

Bioethics, as the science of life, intends at the promotion and protection of human life and well-being. The growth and advance achieved in medicine and the biological sciences, insofar as they tend to promote the good future of humankind, are to be taken advantage of. Humans have developed mature and consistent ways and means in order to support and protect life from natural and biological threats. But it must be noted that bioethics is a relatively new word coined by a biochemist Van Rensselaer Potter in 1970 in an endeavor to draw attention to the fact that the rapid advances in science has proceeded without due attention being paid to values.¹ In this regard, Darryl Macer writes:

It is important to examine the direction of bioethics and how this might enable people to question scientific endeavors and use of technology and what impact their moral decisions will have on them and their societies.²

The future of humanity lies in the decisions humans make. Now, our decisions have to be moral if we were to advance the interests of humanity. Again, the moral ground should always be the protection and promotion of the dignity of each person. As such, biomedical science has to be sensitive to human values. Because humans are involved, experts cannot work in such a field without having due regard for the value of human life.

The new frontier in today's world with regard to the above is genetic research. Genetic science finds its origin in Gregor Mendel, who in 1866 discovered the laws of heredity. The heart of this hard science comes from the secret of the nucleus. The nucleus of an organism possesses the chromosomes which has the DNA (deoxyribonucleic acid), the very building structure of life.

The study of the DNA has propelled the advances in genetic research. These advances have opened doors to many possibilities in medicine and patient care. But there are moral issues to consider. According to John Harris, "ethical issues are raised by the use of embryonic cells, tissues, or other

products and indeed the use of neonates and aborted fetuses as sources of therapeutic or experimental material.”³ Scientists say that genetic research is vital. Today, it is modern medicine’s most promising weapon in the battle against certain types of cancer, Parkinson’s, diabetes, and other debilitating genetic anomalies. For instance, “the treatment of diabetes using pancreatic cells, and embryonic myocardial tissue could be obtained from embryos and used by cardiologists to repair the major vessels of the heart”.⁴ But the issue is that the good of the patient, the possibility of finding the treatment for difficult diseases, is set against the background of manipulating and using the human embryo for experimental purposes. As such, the expected good outcomes from these experiments need to be evaluated and measured over the real possibility of reducing the embryo into a mere instrument.

Genetics can be seen as something that has been made possible by means of the gift of the human intellect. Science, as a product of the human mind, should serve the very purposes which will enable humans to enhance their over-all well-being. However, being human, we can be limited in terms of our perspectives. It is possible to play with this newly found skill. As such, the possibility of doctors and scientists playing “God” or being masters of human destiny by designing or re-designing the biological structure of the human being stays in the horizon. This we find in the area of eugenics which, it can be argued, also aims at the improvement of the human race. But can human genes be manipulated to produce a superior race and discard an inferior one? This is the basic moral question in the area of eugenics.

During the Second World War, experiments were done on human subjects to choose and raise the best breed. Those who fail to pass the criterion set by some researchers were discarded. Many young children were placed in secluded camps, trained and studied in order to record their behavior. These experiments put eugenics into a bad light.

However, Macer makes a distinction between positive and negative eugenics. He says that “positive eugenics refers to the achievement of a systematic and planned genetic change to improve individuals and their offspring. This includes selection of healthy genes and use of gametes from people thought to be superior in intelligence and physical characteristics.”⁵ On the other hand, negative eugenics concerns policies and programs intended to reduce the occurrence of genetically determined disease.⁶ Eugenics is negative when it results to the sacrifice of human life, for instance, in the sterilization of some adults thought to be inferior, and Macer notes that some countries “sterilized persons to stop them from having children.”⁷

Genetics, it can be argued, serves human life by means of its overall goal of enhancing its quality. But while the intellectual efforts of scientists to find cure for diseases that have been very difficult to treat using conventional

methods is commendable, there are moral issues that need to be settled. The decisions that doctors and clinicians make especially in the use of human embryos should require moral examination. The reason being is that humans are not guinea pigs. Harris says that "the moral justification that surrounds you and me, in virtue of which we cannot simply be used or experimented upon without our consent, derive from the moral differences between us and other creatures."⁸

Genetics is controversial because many of the ways and means it employs sidestep some of our precious held human values. These values, i.e., the value of human life, belief in God, respect for human autonomy, and the dignity of the person, are informed by our community, religion, tradition, and historical existence. They affect our basic moral judgments. Humans, as social beings, have to conform to the rules and values set by society. If a society prescribes respect for the sanctity of human life as a fundamental moral norm, then such norm is essential in assessing the moral decisions people make.

According to Harris, "if it would be wrong to experiment on normal adults without their consent or to use them simply as tissue and organ banks, then it would be wrong to treat embryos likewise."⁹ The question is, he adds, when if at all, and in virtue of what does the human embryo begin to matter morally?¹⁰ The difficulty lies not in the fact that neonates are unable to make moral judgments about anything, but that since neonates cannot defend themselves from any form of violence against them, their fate would depend on adults. It is impossible for neonates to make decisions or to understand information or to process information rationally or to desire reasonable outcomes.¹¹ Now, any moral decision can only be made by a mature adult. It is for this reason that we must be compelled to act on behalf of the human embryo, and such an act must take into consideration basic moral values.

Ultimately, any decision should be for the moral good of persons. While it considers the greater interest of humanity, a decision should seek the moral good but never at the expense of any life, including that of a human embryo. Harris reminds us that "at the heart of human biotechnology has been the embryo. Of course, it was the study of the embryo and the ability to fertilize the human embryo in a glass dish in a laboratory that led to the birth of the first test tube baby, Louis Brown."¹² This medical first was a very great achievement for humankind. But at the same time, it also has given rise to basic ethical questions and has triggered the debate on competing moral norms due to the many possibilities with regard to the use of genetics in medicine.

We have stated that through genetics, experts have been able to do researches in order to find the treatment for some diseases. However, when researchers use human embryos, the moral question regarding the sanctity of

human life arises. For instance, how are human embryos to be morally regarded? Is an embryo a human person? Or are they less than human and can thus be subjected to genetic manipulation?

One can speak, for instance, of an embryo's potential to become human. But according to Harris, there is a difference between the potential of an individual and the potential to become an individual.¹³ There is of course a distinction between what is considered as actual and what is merely potential. But in terms of value, what is merely potential is something that cannot be disregarded. "Like an acorn", says Gregory Pence, it can be said, "the value of an embryo is all potential, little actual."¹⁴ Saying that it is "little actual" implies that it can be violated since it seems that it is of little value or no value at all. Of course, from a moral point of view, that is unacceptable. For instance, people work hard because of the potential that work gives us in terms of a life well-lived. We send our children to school because of their potential to become good citizens. There is, in this sense, value to the potential inherent in the human embryo.

Let us discuss the case of human embryos created from the process known as parthenogenesis. These embryos cannot fully gestate since they lack the complete genetic make up of a human being. These embryos are particularly created in order to produce embryonic stem cells. Biologically, the eggs of most species including humans can be stimulated to grow without fertilization.¹⁵

The above process is called somatic cell nuclear transfer. It begins by using a female oocyte which is without any genetic contribution from a male sperm. Some consider these embryos as less morally problematic because they do not fully mature. Evidence shows that while these parthenogenetically stimulated human egg cells can develop normally until the heart-beat is discernible, they will then usually die.¹⁶ The reason for such is the absence of "the male chromosomes which provide the important activity in the placenta. This absence is the cause of the short life of parthenogenic embryos".¹⁷

In this process, the female egg's nucleus is taken and then the DNA of a patient is inserted into the egg. The resulting embryo that grows becomes the source of stem cells which can be cultured in order to create tissues that would be matched with that of a donor, allowing for the possibility of a successful organ transplant. Macer explains that "somatic cell gene therapy involves injection of healthy genes into the bloodstream or another target tissue of a patient to cure or treat a hereditary disease or similar illness."¹⁸ Harris also notes that based on researches in genetics there are very good indications that the embryo or fetal cells, tissue and organs can be used for repair and transplants in adults.¹⁹

The argument for genetics comes from the fact that there are diseases whose promising cure is only through the science of genetics. The advantage on the part of the patient is clear. But genetic manipulation is a moral issue that requires a close examination.

With reference to the idea of cloning, Pence says that “the most important moral objection to originating a human by cloning,” for instance, “is the claim that the human person may be unnecessarily harmed...”²⁰ In relation to the human embryos, those in favor of genetics can say that human embryos are not necessarily harmed because they are incapable of feeling any pain.

The argument from utility

The argument from utility emphasizes the extensive use of genetic science in order to find cure for some diseases. It suggests that we should use all available human resource and talent to find the solution to diseases which have put many people in great pain. The inner drive to pursue certain things in life includes as a fundamental principle the pursuit of scientific knowledge. Although biomedical research entails huge investments and many risks on the part of researchers and human subjects who take part in these experiments, the possibility of discovering new cures is a valid motivation.

It can be said, for instance, that “without some risk, there is no progress, no advance. Without risks, pioneers don’t cross prairies, astronauts don’t walk on the moon...The past critics of assisted reproduction demonstrated a psychologically normal but nevertheless unreasonable tendency to magnify the risk of a harmful but unlikely result.”²¹ Based on this argument, it can be said that the notion of risk is baseless. It is more prudent, based on this point of view, to consider first and foremost the promise of the researches made in the field of genetic science. Now, since the human embryo is at the heart of the discussion, one must consider how the human embryo can be affected by genetic experiments.

Adults are required to give their consent to any procedure before any scientific experiment can proceed. This is because researchers have to value the moral autonomy of the person. Respect for this autonomy is respect for the dignity of the human person. However, with respect to embryos: “Nor can a person consent until he is born. Nor can he really consent until he is old enough to understand consent. The requirement of consent to be born is silly.”²²

According to Pence, “an embryo cannot be harmed by being brought into existence and then being taken out into existence. An embryo is generally considered such until nine weeks after conception, when it is called a fetus. Embryos are not sentient and cannot experience pain. They are thus not the kind of subjects that can be harmed or benefitted.”²³ Embryos do not possess a consciousness that can experience or feel pain. Since they cannot experience

pain, according to Pence, it is pointless to talk about harming the embryo because it cannot be harmed.

From the above utilitarian point of view, the embryo is not considered human, and it cannot be a subject in the utilitarian calculus. The basic idea is that since the use of the embryo can result to a greater good, granting for instance that genetics will be able to succeed then it is morally acceptable from a utilitarian point of view to utilize them for experiments.

Against human instrumentation

What sort of dangers are there in genetic science? Take, for instance, the cloning of the first animal, Dolly the sheep. Here is the summary of that experiment: "Ian Wilmut's work needed 277 embryos to produce one live lamb. In fact, Wilmut started with 277 eggs, fused nuclei with them to create embryos, which were then allowed to become the best 29 embryos, which were allowed to gestate further. He had three lambs, almost live, with one true success, Dolly."²⁴ Based on this claim, 26 embryos have been discarded to produce one true success.

Now, based on the above, it can be asked if it is morally right to use human embryos for such sort of experiments. We can argue that there is a moral problem if human embryos are experimented and then discarded after any experiment. Can human embryos be used for medical purposes? Is it moral to destroy human embryos for the benefit of others?

We can take as an example the case of a pregnancy that is terminated in order to take out an embryo. The stem cells of this embryo are harvested in order to grow bone marrows. The bone marrows are then transplanted to the recipient patient. If this is not done, the adult patient can die. Genetically, the embryo of a sibling is medically preferred as source of stem cells in order to lessen the possibility of organ rejection. What makes this particular case morally difficult is the impending possibility of losing the patient. Parents, out of love for their child, will naturally try all methods humanly possible.

The Christian tradition strongly argues that life begins from the moment of conception. As such, the development of that life, for instance the embryonic stage, cannot be manipulated. Since the embryo, from a Christian point of view is fully human, the use of this embryo is a violation of the dignity of the human person. Persons, precisely as persons, cannot be reduced to a mere function in order to benefit others. Objects have the character of having a function. Their meaning comes from their usefulness. Reducing a human embryo to a particular function, therefore, is reducing it to an object.

Experimenting on the human embryo, whether for a good or bad motive, is a way of using the embryo into an instrument. What makes this wrong is that the human embryo possesses an inherent value. All instrumentation implies

some kind of manipulation. One can for instance manipulate a computer program with a virus. The computer program is destroyed. It is rendered useless. But the computer does not possess an inherent value. Its value is derived from the tasks it performs.

Thus, to manipulate means that one sees the entity as a mere object without any inherent value whatsoever. Now, since the human embryo is a tiny reality without immediate purpose in the same manner as an adult does, could it then be subjected to experimentation or medical use? The answer is no, for if a human embryo is discarded or destroyed after it shall have served or perhaps failed to perform its purpose in the experiment, then one has shown disregard for the very essence and dignity of that inherent value – the sanctity of human life.

Is political consensus on genetic science possible?

The issue of using human embryos is a highly contested political issue. Some sectors are in favor of genetic research because of its potential. The possibility of saving so many lives which could have been otherwise lost is a reasonable basis for spending human and financial resources on it.

But very deep political division in the world occurs because of peoples' moral convictions and beliefs. There are values which people are unwilling to compromise. The substance and depth of the teachings of one's faith and religion are factors that undeniably affect how people view the matter at hand. Ultimately, some may argue that if it is God's will that people die, then the natural course of such inevitability should proceed. But then it is morally valid to argue that if science can be pushed to its limits in order to find the solutions to some of our problems, then genetic research should be accorded the opportunity to prosper not just in the name of science but for the sake of those who hope to be treated by genetic medicine.

Given these vastly conflicting points of view, is it possible to arrive at a political consensus? A political consensus is a reasoned judgment. It is solely based on politically prudent decisions, for instance, human welfare. It is difficult to proceed from the point of view of one's faith. But we can proceed from the point of view of certain non-negotiable moral values, i.e., the sanctity of human life, human dignity, and moral autonomy. For instance, given the country's Catholic tradition, the use of any human embryo from any donor, i.e., a pregnant woman, even with her consent, is unacceptable.

But it is justifiable that scientists and researchers should be allowed to proceed with their investigations given the proper moral norms and parameters. What is necessary is to begin with politically and socially acceptable moral grounds, i.e., no human embryo should be used in any research. The basic idea here is that rejecting genetic science outright because

from the point of view of one's faith it is akin to "playing God" is fundamentally dangerous. Given the proper moral reasons, for example, the treatment of cancers, diabetes or Parkinson's, scientists should be allowed to look for efficient ways and means to establish their science and its practice without harming our human values. If genetic science aims at the enhancement of human welfare and ultimately, the good of human life, then it should be given the chance and resources to secure for the whole of humanity, without sacrificing human values, a better way to live.

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Endnotes

¹ Bioethics Core Curriculum (Bangkok: UNESCO, 2008), 14.

² Darryl Macer, *Moral Games for Teaching Bioethics* (Bangkok: UNESCO, 2008), 12.

³ John Harris, *Clones, Genes and Immortality* (Oxford: Oxford University Press), 43.

⁴ *Ibid.*, 60.

⁵ Darryl Macer, *A Cross-cultural Introduction to Bioethics* (Bangkok: Embios Ethics Institute, 2006), 121.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Harris, *Clones, Genes and Immortality*, 44.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Report of the International Bioethics Committee of UNESCO, (Paris: UNESCO, 2008), 29.

¹² Harris, *Clones, Genes and Immortality*, 43.

¹³ Ibid., 50.

¹⁴ Gregory Pence, "Will Cloning Harm People?" in *The Right Thing to Do*, by James Rachels, (Boston: McGraw-Hill, 2007), 121.

¹⁵ Harris, *Clones, Genes and Immortality*, 51.

¹⁶ Ibid., 51.

¹⁷ Ibid.

¹⁸ Macer, *A Cross-cultural Introduction to Bioethics*, 124.

¹⁹ Harris, *Clones, Genes and Immortality*, 60.

²⁰ Pence, "Will Cloning Harm People?," 114.

²¹ Ibid.

²² Ibid., 114.

²³ Ibid., 121.

²⁴ Ibid., 120.