

## Why We Think the Way We Think about Morality and Ethics Genetic Engineering: What's All the Fuss About?

### Setting the Scene: Biomedicine

Medicine as we know it has changed dramatically in the last fifty years. The impact of technology has generated a realm of medicine that we refer to as biomedicine. Biomedicine concerns those areas that are not restricted to traditional medicine, but that apply to larger issues involving the future development of the human species. Biomedicine involves gene-splicing or genetic engineering: diagnosing and treating genetic defects *in utero* (in the womb), manipulating the reproductive process, transplanting organs, and prolonging life. Concern over the genetic health of society reflects a certain irony in as much as the concern is directly related to the success of modern medicine. This success has enabled vast numbers of genetically handicapped people to survive and live essentially normal lives, marry and have children. Consequently, genetic defects are multiplied in the human gene pool, prompting some biological scientists to raise questions about whether we should be taking measures to improve the species' genetic health. Some argue that given that we have the technological capability, we should address the issue while others are not convinced that improvement of the gene pool is necessary.

Today, we shall examine the Christian assumptions that form the basis of moral judgments about human genetic manipulation. This initial step is important in order to help us clarify why Christians think the way we do about genetic engineering. There are I think two sets of assumptions or beliefs that exist in Christian thinking about genetics. The first has to do with God and the second with human beings. But first of all, I want to distinguish between four types of genetic manipulation. The we will move to the *God 'stuff'* and subsequently, the *human 'stuff'*.

### Genetic Manipulation

The Human Genome Initiative (1990-2013) was a project, designed to map the entire human genome. The term genome refers to the complete set of an organism's DNA. DNA is the abbreviation for *Deoxy-ribo-nucleic acid*, a molecule that carries the genetic instructions used in the growth, development, functioning and reproduction of all known living organisms and many viruses. The project's results enabled four basic types of genetic manipulation. First, there is what is called *somatic cell therapy*, in which a genetic defect in a body cell of a patient could be corrected by splicing out the defect and splicing in a healthy gene. Second there is a *germ-line gene therapy*, in which a genetic defect in the reproductive cells – egg or sperm cells – of a patient, could be corrected so that a patient's future offspring would also be free of the defect. Third, there is *enhancement genetic engineering*. In this form of genetic manipulation, a particular gene could be inserted to improve a specific trait: for example, either by adding growth hormone to increase the height of a patient, or by genetically enhancing a worker's resistance to industrial toxins. Finally, there is *eugenic genetic engineering* in which genes would be inserted to design the entire human subject.

The first two types of genetic manipulation are *therapeutic* in nature because their intent is to correct some genetic defect. The latter two types, are not therapeutic but are concerned with improving or *enhancing* either various aspects of the patient or with *changing* the whole patient, including his or her genetic progeny. As you can appreciate then, the goals of genetic engineering can be quite limited or extraordinarily broad. This is the issue with which Christian thought is especially concerned.

### Theological Assumptions/Beliefs that Influence and Shape the Moral Judgments that Christians Make about Genetic Engineering

Let's first examine *the God 'stuff'*! The views about God that influence and shape moral judgments about the legitimacy or otherwise of genetic manipulation have to do with who God is, God's providence, and how God acts in the world and in history. Let's look at the two dominant interpretations!

#### *First Take: The Creation and History as a Closed Given*

For Christians, God is understood to be the one who has created the material universe including humanity. In doing so, some believe that he has placed universal, fixed laws into the very fabric of creation. Moreover, they argue that God directs the future through Divine providence; in other words, divine care and guidance. In addition to the idea of God's fixed laws, and God's care and guidance, there also stands the conviction, that God enjoys certain rights over creation, which in some cases have not been delegated to

human authority. When people take it upon themselves to usurp God's rights; for example, those rights to determine the future and to change the universal laws that govern biological nature, it is said that they act from a lack of right (*ex defectu juris in agente*), they act in a sinful way. This understanding would usually lead to a conclusion that disapproves of scientists' attempt to change the genetic structure of the human species, especially any attempt to engineer the entire human person. Back in 1994 a Time/CNN Poll on genetic research in the US, led to the result of 58% of respondents taking the view that altering human genes in any way was against the will of God. Today the result would in all likelihood be quite different.

### **Second Take: The Creation and History as Open Ended**

The second way of understanding God in the genetics debate, is where God is interpreted as one who creates physical nature and humanity, but does not place universal, fixed laws into the fabric of creation. Here, Divine providence, is understood as God providing ordered *potentiality*, responding creatively and in new ways to the continually changing needs of history. Here, God's actions in creation and in history, are understood as continuing to influence the world process, which in itself is open to new possibilities and spontaneity. With this take on God, while there is stable order, creation is not yet finished, history is open, indeterminate, and humans are engaged in the active process of creation itself, humans are *co-creators* in company with God. With this interpretation of God, God acts less as ruler and more as persuader; that is, persuading human beings, in their freedom, to act responsibly and justly. In this case, where material nature is understood to be unfinished and the future still to be realized, then one would be more likely to morally justify attempts at genetic manipulation, including perhaps non-therapeutic attempts at genetic enhancement and eugenic engineering.

### **Anthropological Assumptions/ Beliefs that Influence and Shape the Moral Judgments that Christians Make about Genetic Engineering**

Now let's turn to the *human 'stuff'*! There are three presuppositions that shape the contextual background regarding people's moral position on genetic manipulation. The first is especially theological and concerns how we see ourselves as created in the image of God (*imago Dei*). The second, concerns the various models that we have in our heads about material nature. The third, involves what we see as normatively human: that is what we see as distinctively human that must be safeguarded.

#### **Human Beings in the Image of God**

The first reading of human beings made in the image of God, understands that we humans are stewards over creation. This suggests that our role is to protect, to conserve what God has created. Accordingly, we are to respect the limits that God placed upon the orders of biological nature and society. This view of the human, correlates with the earlier view of God as creator who has placed universal and fixed laws into the fabric of creation. As stewards, our role does not include the alteration of what the Divine has created. Our function is to remain faithful to God's original creative will.

The second reading of human beings made in the image of God, sees humans as I mentioned above; as co-creators with God engaged in the continual unfolding of creation. As co-creators, yes, we are dependent upon God for our own existence, but simultaneously, responsible for creating the course of unfolding history. The German Catholic thinker, Karl Rahner, speaks in these latter terms: we are not just the products of material nature, but also beings who have been commissioned by God to further the divine work of creation. Creation has begun but has not yet become fulfilled. Rahner also added something here: namely, that in creation, humanity has been *handed over to itself* and in this sense, must manipulate *toward self-determination*. In this sense, he argued, genetic self-manipulation does not automatically imply a morally repugnant act.<sup>1</sup> There may be limits of course, but not all forms of genetic alteration should be prohibited. What I have not included here is the question of the fall of humanity. Protestants have historically emphasized this more than Catholics; some of them taking quite a pessimistic view of the human capacity for using technology for moral ends. Clearly, the more secular view tends to the opposite pole, seeing only the possibilities, extolling human freedom over nature.

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<sup>1</sup> Karl Rahner, "The Problem of Genetic Manipulation," *Theological Investigations*, Vol. 9 (New York: Crossroad, 1972), 225-252. Also see his "The Experiment with Man" in *Ibid*, 210-223.

## Models of Nature

There are three different understandings of nature that influence the moral position on genetic manipulation. Each model not only attempts to interpret the nature of material reality, but also to understand the extent to which we can use human freedom to change our biological nature, especially our genetic heritage. Each in its own way, involves a view of the relationship between body and spirit.

The first is the *power-plasticity model*, the model that dominates in contemporary bioethics. For this view, material nature has no inherent value beyond that of being used, dominated and shaped by human freedom. In this sense, the basic purpose of the entire universe, including human biological nature, is to serve as the instrument for human purposes. The body then becomes *subordinate to* the spiritual aspect of human beings, that is seen as possessing an unrestricted right to dominate and to shape the body and even its genetic heritage.

The opposite of this utilitarian idea, is the so called *sacral-symbiotic model*, where material nature is viewed as created by God. Because it must be heeded and respected, human beings are not the masters, but rather, stewards who must live in harmony and balance with our material nature. Because biological nature is our teacher that shows us how to live within the boundaries established by God at creation, our spiritual aspect is *subordinated to* our body in the moral order of things. Accordingly, any alteration of the human genetic code, except possibly to cure a disease – that is therapeutic ends – would be utterly prohibited. In this case, then, germ-line genetic enhancements or eugenic engineering would be considered as ‘playing God’, since we would be claiming rights over fixed, biological nature that only God possesses as Lord of life and death.

The final model, sees material nature as evolving. Unlike the first model nature is not just plastic, to be moulded into whatever human beings want. Nor, however, is it absolutely fixed. There is some stability to nature and there are some laws that govern material reality, but neither this stability nor these laws are absolutely normative. Change and development are part of reality and the relationship between material nature and human freedom is as a dialogue that dynamically evolves over time. It is within this dialogue that we humans learn how to use material reality responsibly. In this case, it is neither a question of spirit over body or body over spirit, but one where we humans are *embodied spirits*. In this model, we do not possess the unlimited right to manipulate ourselves totally at the genetic level of our biological existence, but we *do* possess the freedom and responsibility to intervene into our biological nature.

## The Normatively Human

Finally, let's look at what we consider to be fundamental or normative to what it means to be human. This is important because it shapes our response to genetic manipulation. James Gustafson, argues that to respond adequately to the question of what is normative for humans, we need to ask four questions, the most important of which is this: how do we adequately describe and explain what we believe to be distinctively human?<sup>2</sup> If we were to offer the answer that it is our biological genotype that is distinctive, then, clearly our attitude to genetic manipulation would be quite conservative. If on the other hand, we were to answer, the power of humans to generate and create culture, then we would be attitudinally more open to genetic manipulation, stressing the importance of human freedom and creativity.

## Conclusion

In this paper, we have thought through the question of why Christians tend to think the way they do about genetics and genetic engineering or manipulation. We have done a number of things here:

First, we have talked about the various God assumptions or beliefs that shape the way we think and conclusions we draw. Second, we have talked about the anthropological assumptions or beliefs that we carry, which again influence the conclusions we draw: what we mean by humans being made in the image of God; how we understand nature and its place in human and social experience; and finally, how we think about what is fundamental to human identity. While genetic engineering is here to stay, the challenge will always be as to how we proceed with it, aware of its possibilities but prudent about its potential for abuse.

## Questions

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<sup>2</sup> James M. Gustafson, “Genetic Therapy: Ethical and religious Reflections”, *Journal of Contemporary Health Law and Policy* 8 (Spring 1992): 191.

1. What has been your attitude to genetic engineering? Does our discussion make you more or less wary?
2. Where do you sit on the nature curve? Do you think it is something that should be at the service of human beings, which we should feel free to engineer and manipulate, or are you more cautious? Why?
3. Do you think God is a conservative when it comes to human beings pushing the technological limits or is she a progressive?