

Genetic Engineering and Our Human Nature

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Introduction

Developments in genetic engineering have swept us along faster than we can follow—and certainly faster than allows for adequate consideration of ethical consequences. Genetic engineering in plants and animals is pervasive, human genetic selection is now commonplace, and genetic enhancement seems unavoidable. Challenging and dangerous possibilities of “improving” the species will, discovery by discovery, arrive at our threshold like the salesman, who, his foot initially thrust in the door, is suddenly standing in the foyer. Given the pace of change and our fascination with it, one can reasonably anticipate that arguments against genetic engineering will be ignored in the face of technological enthusiasm. For better or worse, our children will receive from us a brave new world.

If we are “condemned” to bequeath our children a world in which genetic engineering is a reality, we must develop a way of talking about—and enforcing—rules governing its use in a way that furthers human concerns while preserving human nature. In short, we must assure that, in some sense, our children are like

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us. But up to now discussions about genetic engineering have been inadequate. There is a vague insistence on the need for “enlightened” public policy, both national and international, to ensure a harmonious world community. But policies addressing genetic engineering must reflect some vision of what human beings *are*, a task that still lacks a consensus. If we are to preserve our human nature, perhaps we ought first consider the question: what have we been as human beings? I want to suggest that the notion of the sacred is an important part of such considerations. Understanding the sacred helps us both identify ele-

ments in nature and human nature that ought to be preserved and also understand what might be required to “preserve” our human nature.

A Traditional Notion of the Sacred

The notion of the sacred refers to that which is holy or has been made holy by its connection with a deity. For example, the medieval theologian Thomas Aquinas uses the term to describe the science of revelation; for him, the sacred refers to both God and His actions, and subsequently to what has been revealed to us about them. Revelations of the sacred is for our benefit, and although human understanding is limited—a weakness of our intellect, contends Aquinas—revelation is an incitement and opportunity to improve our wisdom about the nature of the world and our place in it.

According to Aquinas, humans are created in the “image and likeness of God.” The significance of this is that an image carries the sign of its origin and an aspect of the original. In humans, the image of God is found in the “intellectual soul,” which houses reason and the possibility of judgment. The rest of the animal world carries a “trace” rather than an image of God—that is, evidence of God and His design, but not any element that allows for reason and judgment.

According to this view, human nature is sacred, indeed to a lesser extent all nature is sacred, because as creatures we share in God’s nature. Through our shared nature, particularly its rational capacities, we are able to learn of the nature of God and come to understand that everything has a complete dependence on God. Thus, the sacred allows us to understand some of God’s nature and His actions.

A Contemporary Notion of the Sacred

Contemporary versions of the sacred hold to some aspects of Aquinas’s conception without accepting his entire position. One common position claims that the sacred “transcends human affairs in the sense that it is experienced as having value independent of human decisions and preferences.” The ethicist Gregory E. Kaebnick wants a source of value rooted in transcen-

dence, analogous to Aquinas's recognition of the meaning of creation. But for Kaebnick, this value-conferring notion of the sacred is free of the historical baggage of God and creation—it has no “special ontological relationship.” He suggests (but does not explicitly say) that this notion of the sacred, taken from environmental ethics, is generally about nature, but it can be applied to bioethics issues, including the challenges of genetic engineering. Specifically, Kaebnick contends that the advantage of the notion of the sacred is that it carries with it an acceptance of value that is not defined solely by individual human ends: “The idea of the sacred is the idea that we bear a moral relationship to other things.”

Kaebnick suggests that we can “ascrib[e] sacredness to a work of art, the human body, nature, or the natural order of birth and death” as a pre-theoretical response to the world. When he reaches for content for the sacred, he looks to a romantic view of nature characteristic of such poets as William Wordsworth or Walt Whitman, or to the romanticist painters of the Hudson River School. Kaebnick's romanticism involves the wistful hope that we can recall the time when nature and its workings were truly beyond us and, with a proper recollection, we shall once again respond with reverence.

The immediate difficulty with this analysis is that it begs the very question it hopes to address. The era in which we possess remarkable powers to influence or alter biological life is already upon us, and one is hard pressed to find any area of biological life that has not been touched by the human hand. Kaebnick's notion of the sacred must thus simply be understood as con-

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servation, a sense that the past was somehow better: “If something's being sacred does not flatly prevent us from acting in ways that appear to threaten that entity, the right thought—drawing again from environmentalism—is that *we ought to tread lightly and cautiously*” (italics original). Yet it is precisely the aggressive trend of technological advance that is at issue.

The key problem in trying to stop—or at least to slow long enough to properly consider—the implementation of such aggressive techniques as genetic engineering by appeal to the sacred is that some understandings of “sacred” are empty. Once the nineteenth century German philosopher Friedrich Nietzsche famously declared that God is dead, there

was good ground to argue that the sacred died with him. For Aquinas, the sacred carried with it the weight of its divine origin. There is a richness of content derived from the rootedness of the sacred in a larger reality, a reality that transcends the human reality, and to which humans need access. In considering Aquinas's understanding of nature, one also must consider nature's creator and the creator's divine plan. When God died, the “fact” of that death also removed the possibility of man as an image of God and the animal world as possessing traces of God. Kaebnick's sense of the sacred cannot fill the void left by God's death. Without a source, image and trace evaporate. When they evaporate, so too does our ability to locate those elements in our world, and to extrapolate from them an ethical guide, or even the reason to want to bother to do so.

The Sacred as Feeling

Another notion of the sacred understands it not as a concept, but that which elicits a feeling. One prominent example of this view is medical ethicist Leon Kass's use of the “Yuk factor” as the beginning of an argument against cloning. The “Yuk factor” is an emotional reaction to the violation of an intrinsically valuable limit. The philosopher and ethicist Mary Midgely makes a similar point, insisting that “it is usually a bad idea to see debates . . . as flat conflicts between reason and feeling because usually both thought and feeling are engaged on both sides.” She wants us to pay closer attention to feelings as reason's allies and co-directors of ethical action. At the same time, Midgely is also aware that feelings must be articulated by thought and expressed in communication with others. Nevertheless, she calls upon feelings to augment an argument, to provide it with a pre-conceptual justification that eases the way for argument.

The problem with Midgely's attempt to defend emotional revulsion at the thought of genetic engineering—by lauding the usefulness of the emotions as a sort of early warning system—can go only so far. The important question—how the emotions got the form they have that lead them to react as they do—remains unanswered. Further, all horrors are not possessed of the same insight (Midgely mentions a horror of cats, for example) and the differences among emotional responses raise two important questions: 1) What are the social and psychological conditions that give rise to the specific emotional reaction? and, 2) What rational explanation can grow out of that emotional reaction?

Certainly, addressing the social and psychological underpinnings of an emotional reaction is a complicated affair, but Midgely's attempt to draw an argument from emotional reaction yields ambivalent conclusions. She is horrified at two very different—

albeit related—issues: first, concern with the genetic alteration of species, and second, concern with the nature and growth of the industry of bioengineering. She quickly moves from a horror at mice growing human ears on their backs to horror at “this huge uncriticized impetus, this indiscriminate, infectious corporate overconfidence, this excessive one way

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channeling of energy” of the biotechnology industry. She seems to find acceptable “single projects, introduced slowly, tentatively, and critically,” but urges delay on the larger, more sweeping projects of biotechnology, insisting they are “unnatural” and “in the quite plain sense [they call] us to alter radically our whole conception of nature.”

Although emotion—such as the horror Midgely describes at the prospect of mice with human ears, or fear at the prospect of large genetic projects—offers important *occasions* for reflection, emotion does not *ground* or *inform* reflection. Our emotions also are usually not “pure” responses; they reflect our goals. For instance, one may be repulsed by the thought of a mouse with human ears (in part because one sees no use in a mouse altered in this way) but one might not be horrified at equally strange elements in a research program that would eliminate the possibility of Huntington’s chorea or Tay-Sachs from a child’s future. Our interests, in short, influence our emotional reactions.

The Hard Case of Genetic Engineering

Despite these difficulties, I want to suggest that the notion of the sacred can help us with the ethical questions raised by genetic engineering. To do this, I turn to Plato, the premier philosopher of the Western tradition. In his analysis of the human psyche and what drives it, Plato suggests that eros, a deep psychological force, propels us to go beyond ordinary human needs and capabilities to seek out truth, beauty and goodness. As Diotima, a main character in his dialogue *Symposium*, says, men are “pregnant in respect to both body and soul,” and this pregnancy is a striving for the immortal. This striving takes many forms—from our desire to have children so that we may live on past our death, to contemplation, the reward of the practice of philosophy in which the eternal ideas are thought.

One could suggest that genetic engineering is a concern of those who are pregnant in body only, and thus

worries about genetic engineering are “beneath” true intellectual evaluation. When one glimpses immortality through one’s children, the issue of genetic engineering seems to confer benefit. Few parents would deny their child any help that would avoid or correct a genetic defect, and likely many parents would also be interested in genetic enhancement.

If Plato is right, then eros—that deep psychological force that drives humans to go beyond the ordinary—will resist attempts to preserve the status quo or thwart the promise of genetic engineering to achieve immortality, betterment, perhaps even perfection. Manipulation of the genome promises individuals the power to mold the future according to an image of the beautiful to which they aspire, or perhaps come to expect. Parents will be especially drawn by this promise—anyone who has lost sleep during a pregnancy, or fears the birth of a child because of as yet unknown difficulties, deformity, impairment, death, knows well the implicit ideal that reproduction and

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birth holds up against an uncertain reality. The relief that accompanies a “normal” birth, or the devastation and regrouping that follows a “problem” birth give further testimony to power of that ideal. The suggestion that the fate of a child should be left to the hand of cruel and random nature when technical means exist to minimize the possibility of disaster seems ludicrous to the profoundly worried parent.

At this point, the recognition that such technical means are not now fully developed, that they will be risky, complex, expensive, and perhaps unjust, carries little force in the face of the significance of the accomplishment. This is true for those with the resources to gain access to the technology, but it is also true for those who are either passionately worried, risk takers, or are confident—even overconfident—about technological innovation. Further, eros, that strong psychological drive to go beyond need and capability, will at times lead one, unknowingly, to risk great harm. The parent who chooses genetic manipulation—out of love and protective feelings for their child—might never consider other risks or dangers that the child faces as a result of genetic alteration. Certainly, human history is filled with examples of the terrible consequences to societies that have attempted “improvement” or “perfection” of some of its members, or have deemed some as “better” and others “lesser.”

The more one is driven by desire, the less one is willing to consider the consequences of the fulfillment of that desire. If eros responds to genetic technology, then it is possible—though not assured—that we might give careful consideration to the implications of alterations to the physical makeup of the human being. Plato addresses this general point as well, describing the human being as struggling with different passions, an appetite for physical pleasure and an appetite for the fruits of reason. The results of this tension are as erratic—and possibly dire—as those of Plato’s famously evocative example of the chariot pulled by two temperamentally different horses. A dark horse (the desire for pleasure) is yoked with a white horse

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(an appetite for recognition under the guidance of either pleasure or reason), with a charioteer (reason) struggling to control them. The progress of this chariot is never assured, as at times the charioteer is in control and at times the dark horse seduces his teammate and they rule the chariot. Humans are often under the influence of their dark horse.

But perhaps we moderns have done a more thorough job of thinking about the dark horse than we give ourselves credit. As Nietzsche insisted, to properly understand nature, we must recognize its overwhelming capriciousness, as the stark and wanton suddenness of disease will attest. Our eros (our internal dark horse) often rules us, and—if Nietzsche is correct, it can be encouraged or manipulated. Thus, a simple optimism about our abilities and the comforting embrace of nature are not adequate to our reality.

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Toward an Answer

Some, such as political theorist Francis Fukuyama, hope to close off the possibility of genetic engineering in order to preserve human nature in its present form. Fukuyama’s view of human nature is that which has achieved an end of history in the development of democracy. But he fears that change will begin a new history, and we then must learn to deal with a different

human nature. As I suggested, however, the force of eros precludes a simple halt to genetic engineering, even in the name of preserving human nature (as we know it). If this is so, then perhaps we can say that Fukuyama is right about the wrong problem. Technical advances in genetic engineering will indeed alter in unknown and unforeseeable ways our very human nature—but only the nature of some. Because of humanity’s enormous genetic diversity, for a time the alterations we make will have only a limited effect. Those individuals who are engineered (and their descendants) will comprise only a small proportion of the entirety. Their significance will be magnified by their symbolism of their origin, and to some extent, by the success of the engineer’s intent in bringing about the physical improvements promised by genetic engineering. But others will have a different view of perfection, or will not turn to genetic engineering as a reach toward perfection at all. Instead, they might view genetic engineering as a means to restore, sustain, or enhance health in order to continue a life devoted to self-understanding and perhaps to wisdom.

These differences can create stubborn social tensions. But an appeal to the sacred will not establish clear lines between the permissible and the impermissible. Indeed, the attempt might exacerbate the tension. The difficulty lies in trying to use the sacred as a normative category in the absence of a community-shared religious experience. At best, the sacred is a consequence of an already existing community experience. At worst, it will manifest the varieties of incommensurable divine experience, and seemingly justify all manner of genetic experimentation.

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Sources: For definitions of ‘sacred’ see *Oxford English Dictionary* (Oxford University Press, 1971); all references to Thomas Aquinas are from the *Summa Theologica*, found in *Basic Writings of Saint Thomas Aquinas*, edited by Anton C. Pegis (Random House, 1944), vol. 1 (Q1, A5), (Q35, A1), (Q93, A2), (Q93, A6), Gregory E. Kaebnick, “On the Sanctity of Nature,” *Hastings Center Report*, vol. 30 (2000); Mary Midgley “Biotechnology and Monstrosity: Why We Should Pay Attention to the Yuk Factor” *Hastings Center Report*, vol. 30 (2000); Plato, *Symposium* (Penguin, 1999); Plato, *Phaedrus* (Penguin, 1973); Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (Farrar, Straus and Giroux, 2002).