Putting the Brakes on Human Genetic Engineering

Dr. Michael Gleghorn argues that a biblical view of man should both inform and limit how reproductive technology and genetic engineering are applied to humanity.

Are We Speeding toward a Brave New World?

With ongoing advances in reproductive technology and genetic engineering, man's ability to make himself what he pleases is increasingly within reach. For example, in a 1996 *Nature* editorial it was stated, "the growing power of molecular genetics confronts us with future prospects of being able to change the nature of our species."{1} This raises serious ethical concerns. The power to change human nature says nothing at all about whether we *ought* to change it. How might we use such unprecedented power?

Both Aldous Huxley and C. S. Lewis made disturbing predictions about man's possible future. Both explored what might happen if technologies like genetic engineering and psychological conditioning were unwisely applied to mankind.

In Huxley's *Brave New World* children are no longer born to mothers and fathers (words considered disgusting and taboo); rather, they are "grown" in government owned "hatcheries."{2} Human freedom is virtually non-existent because each person is genetically engineered and psychologically conditioned to fulfill a particular social role. Society is structured into five classes. On top are the Alphas, society's elite. They are the intellectuals, educators, and government officials. At bottom are the Epsilons. They handle society's most menial tasks. In the middle are the Betas, Gammas, and Deltas, each having responsibilities appropriate to their class.

In *The Abolition of Man*, C. S. Lewis argues that man's final conquest of nature may be his conquest of *human* nature. Lewis calls those who develop and gain such power *conditioners*. They can make humanity whatever they please. But what will it "please" them to make?

Neither Huxley nor Lewis seem optimistic. Consider, for instance, what could happen if the man-makers of the future abandon belief in objective moral values—the doctrine that some things are really right and others really wrong. Would they make humanity "better"? The idea of "better" implies a standard of comparison that is either absolute or relative. But these man-makers reject an *absolute* standard of right and wrong. For such moral relativists then, a claim that honesty is good and lying is evil means nearly the same as a claim that hot chocolate is good but coffee is disgusting! Claims about good and evil are merely matters of *personal* taste or preference, nothing more.

But what if there really are objective moral values? If so, such human conditioners could only make us better by accident, for they have rejected the very standard by which *genuine improvement* could ever be measured! And apart from this objective moral standard, "better" means *only* what they themselves happen to like.

In contrast to such moral relativism, the Bible teaches that objective moral values are real. It points to the moral perfection of God as the absolute standard against which all human moral actions should be measured. Therefore, if we let a biblical view of man and morality inform how we choose to apply genetic engineering, we may be able to embrace the benefits and avoid the pitfalls of this powerful new technology.

This Present Darkness

Aldous Huxley and C. S. Lewis feared that if we misapply

technologies like genetic engineering to ourselves we might soon become an endangered species! I share their concerns. Although I am *not* opposed to research and development in this area, I do think it should be constrained by a biblical view of man. Unfortunately, many researchers regard this view as little more than an antiquated myth. The biblical view of man has been rejected, or worse, entirely ignored. That such researchers should feel little incentive for placing biblical constraints on their work is therefore hardly surprising.

A good example of this mindset can be found in Lee Silver's 1997 book, *Remaking Eden: Cloning and Beyond in a Brave New World*. He endorses Huxley's prediction about the power man will gain over reproduction.{3} But while Huxley and Lewis thought the state would use such power to promote its own agenda, Silver believes parents will use it to enhance the lives of their children. He thinks it's inconsistent to allow parents to provide their children with the best home environment, the best health care, the best educational opportunities and cultural experiences, but *not* the best genes.{4} He predicts that if the technology to change or enhance genes becomes available, no one will be able to stop parents from using it.{5} Since the amount of money to be made by such services would be staggering, "the global marketplace will reign supreme."{6}

So how close is the day when parents might request a genetic upgrade for their children? Well, judge for yourself. The successful development of in vitro fertilization in 1978 not only allowed scientists to cure a certain type of infertility, it also gave them access to the embryo. In principle, this makes it possible "to observe and modify . . . its genetic material before a pregnancy is initiated."{7} Although such genetic modification has not yet taken place, it is now "possible to screen thousands of different genes within individual embryos" to see how such potential children might differ from one another.{8}

Still, genetic *screening* is not genetic *engineering*. No genes are added or changed.{9} It simply allows parents to choose from the selection of embryos generated by this procedure. But there is a problem: it's currently legal to destroy the embryos that aren't chosen!{10} And this constitutes a serious infringement upon the rights of the unborn. Furthermore, Silver predicts that "genetic engineering of human embryos" will become feasible by the middle of this century.{11}

While such remarks may sound alarming, we must remember that it's not the technology itself, but its *misapplication* that's the problem.

What Might the Future Hold?

One of the worst consequences of contemporary reproductive technology is the creation, and subsequent destruction, of numerous human embryos. Since 1997, genetic screening has made it "possible to screen thousands of different genes within individual embryos" to see how such potential children might differ from one another.{12} This information allows prospective parents to choose the one embryo among many which they believe will make the best child. Unfortunately, the remaining embryos are simply destroyed! If such technology is not constrained by a biblical view of man, this new form of legalized eugenics may be only the beginning. In light of such advancing technologies, what might the future hold?

The future envisioned by Lee Silver in *Remaking Eden*is both fascinating and disturbing. He speculates that by the year 2350 two very distinct classes of people may exist: the *Naturals* and the *Gene-Enriched* or *GenRich*. Naturals are people like you and me, born by natural methods and not genetically enriched. The GenRich, who may account for roughly ten percent of the American population, are distinguished from Naturals in that they "all carry synthetic genes . . . that were created in the laboratory."{13} Silver believes that over time the genetic distance between Naturals and the GenRich will become

ever greater. Eventually all aspects of the government, economy, media, entertainment, and education will be controlled by the GenRich.{14} "In contrast, Naturals [will] work as low-paid service providers or as laborers," and their children will only be taught the skills needed to do the jobs available to their class.{15}

If this social structure strikes you as loosely reminiscent of Aldous Huxley's *Brave New World* you're not alone. In fact, Silver subtitled his book, *Cloning and Beyond in a Brave New World*. But while Silver believes wealthy parents will use genetic engineering to enhance the lives of their children, Huxley thought such power would be controlled by the state. And here's where things get tricky.

Silver predicts that society will be "controlled by . . . the GenRich."{16} They will be the sole governing class and the sole controllers of all sophisticated technology, including genetic engineering. But then what can prevent the GenRich from passing laws that permit engineering the Naturals to be a class of servants? Would not the more powerful, but less numerous, GenRich want to prevent the Naturals from entertaining revolutionary ideas? And might they not do this through genetic engineering and psychological conditioning? Have we not returned to something like Huxley's *Brave New World*? How might we avoid such a future?

The biblical view of man provides an answer to this question.

The Biblical Doctrine of Man

In his book *Remaking Eden*, Lee Silver anticipates a future in which we can genetically alter human nature. He predicts that "genetic engineering of human embryos" will become feasible by the middle of this century.{17} Suppose he is right about this. Does it follow that we *ought* to genetically engineer humans simply because we *can*? How we answer this question will largely depend on our view of man.

Exactly what are we, anyway? Are we merely matter which, through a long, undirected evolutionary process, has finally become self- conscious? Or are we something more? The Bible declares that both men and women were created in the image of God.{18} This doctrine forms the basis for the Christian belief in both the dignity of man and the sanctity of human life. Even after man's fall into sin the image of God, though marred, was not completely lost.{19}

Thus in Genesis 9:6 we read, "Whoever sheds man's blood, by man his blood shall be shed, for in the image of God He made man." When God instituted capital punishment for murder, it was because He had created man in His image. But this verse not only affirms that man bears the image of God, it also implies that human life is sacred and imposes a severe penalty for the unjustified taking of such a life. It also suggests that man is subject to an absolute moral law which finds its source in God. You might say it indicates that all men "are endowed by their Creator with certain unalienable rights," chief of which is the right to life!

The biblical doctrine of man needs to be brought into ethical discussions of reproductive technology and genetic engineering. Because man bears God's image, certain boundaries should not be crossed. For example, scientific evidence indicates that human life begins at conception. Therefore, destroying human embryos clearly violates their "unalienable" right to life. Furthermore, any attempt to genetically alter man's unique nature as a rational, emotional, volitional, moral agent *could* be viewed as an attack on the image of God in man.{20} We must be careful how we choose to apply such technologies—especially to ourselves!

Science within the Limits of Biblical Morality Alone

C. S. Lewis compared man's attempt to conquer human nature to

"the magician's bargain: give up our soul, get power in return."{21} But once we take the final step of reducing humanity "to the level of mere Nature . . . the being who stood to gain and the being who has been sacrificed are one and the same."{22} Lewis referred to this final step as the abolition of man. By this he did not mean the abolition of man's physical being. Rather, he was concerned about potentially detrimental changes to that unique, *immaterial* component of human nature. Although I have doubts about whether we could *actually* change this aspect of human nature, I do object to any *attempt* by man to alter it through genetic engineering. Since God based capital punishment for murder on the fact that man was made in His image, it seems that any attempt to genetically alter human nature, fallen though it is, may likewise be morally offensive.{23}

Still, the solution is not to abandon scientific research. Rather, we must simply keep it within proper moral boundaries. To make this clear, let's consider an example of a morally acceptable application of genetic engineering which also offers great potential benefit to humanity. There has recently been some talk of possible new AIDS vaccines. One of these, a brainchild of Robert Gallo's institute, makes use of the salmonella bacteria responsible for typhoid. The bacteria are genetically altered to be less infectious and to carry portions of HIV DNA into human intestinal cells. Alex Dominguez writes, "The infected intestinal cells are . . . hijacked by the HIV and produce a part of the HIV virus, which is not harmful but causes an immune response. Researchers hope that will allow the body to fight off an attack by the real HIV virus."{24} Although at this time the vaccine is still being developed, it provides an example of how genetic engineering might be used in both a morally acceptable and humanly beneficial way.

But why is this a "morally acceptable" example? Briefly, unlike the scenarios imagined by Aldous Huxley and C. S.

Lewis, man's unique identity as a rational moral agent made in the image of God is not in any way changed or compromised. Using genetically altered bacteria as a potential vaccine against HIV does not seek to alter human nature any more than a vaccine against rabies does.

Confining scientific research within the limits of an objective, biblical morality thus precludes neither scientific advancement nor human benefit. Rather, it recognizes the value of science without devaluing those who it is chiefly intended to serve! But disregarding such moral standards could potentially lead us into the brave new worlds imagined by both Huxley and Lewis. We must therefore hold these principles in tension and encourage scientific research within the limits of biblical morality alone.

Notes

1. Cited in Lee M. Silver, *Remaking Eden: Cloning and Beyond in a Brave New World* (New York: Avon Books, 1997), 10.
2. Aldous Huxley, *Brave New World* (New York: Harper and Row, Publishers, 1969), 1-4.
3. Silver, *Remaking Eden*, 9.
4. Ibid., 236.
5. Ibid., 236-37.
6. Ibid., 11.
7. Ibid., 68.
8. Ibid., 203.
9. Ibid., 129.
10. *Public Opinion Sought on Embryo Research*, Religious Rights Watch: A Publication of Christian Coalition of America, volume 11, number 1, January 2000.
11. Silver, *Remaking Eden*, 233.
12. Ibid.
13. Ibid., 4.
14. Ibid., 6, 242.
15. Ibid., 6.
16. Ibid.

17. Ibid., 233.
18. Genesis 1:27.
19. James 3:9.
20. A biblical understanding of human nature includes both material and immaterial components. We are not told all the particulars about how these components are related to one another, but clearly each can influence the other. In other words, genetic alterations to the human body could also affect the human mind and personality, essential aspects of human nature which, in my opinion, cannot be reduced to purely physical processes. See footnote 23 for further discussion.
21. C. S. Lewis, *The Abolition of Man* (New York: Macmillan Publishing Company, 1955), 83.
22. Ibid.
23. The Divine image is neither limited to, nor even primarily concerned with, man's physical being. Rather, this image concerns who, or what, man is *essentially*. And this, I think, is where an *immaterial* aspect of human nature must be introduced. That is, man's peculiar *nature* as a rational, emotional, volitional, moral agent with a special capacity for both forming and enjoying relationships with others (including God) includes both material and immaterial components. Although human nature is now fallen and infected with sin, it still bears the imprint of God's image (Gen. 9:6; Jas. 3:9). Thus, I view any attempt to genetically alter human nature (especially its *immaterial* aspect) as morally objectionable because first, man bears the image of God; and second, although human nature is certainly in need of change, this is hardly an appropriate task for fallen humanity. After all, our real need is not just to be made *different*, but to be made new (2 Cor. 5:17). And this *new creatio*n is strictly the work of God—not man (Eph. 2:10; 4:24).
24. Alex Dominguez, "AIDS Vaccine to be Tested in Uganda," *Associated Press*, 20 May 2000.