

The Uberman Knocks: Implications of the Biotechnological Enhancement of Humans

Is reality dynamic or static? Is human nature fixed or evolving? Nowhere are these questions more salient than in the emergent field of biotechnological engineering which, moving from the widely accepted if controversial practices of organ transplants, in-vitro fertilization (IVF), pre-implantation genetic diagnosis (PGD - embryo screening), cosmetic surgery and enhancement boosters in professional sports, now promises more radical procedures such as stem-cell therapies, human cloning and so-called germline engineering - the manipulation of the genetic makeup of egg or sperm (our germinal cells) - to modify future generations. One of the so-called GRIN technologies, (genetics, robotics, information and nano processes), the bioengineering of our genes has provoked both euphoric enthusiasm and doomsday criticism. Thinkers and writers in both camps agree on one thing, however: Manipulating our genetics to alter our biology will signal the end to humanity as we have known it since the dawn of *Homo sapiens*.

This unprecedented power to manipulate our genetics raises crucial ethical questions and requires a serious consideration of the cultural, social and political ramifications of redesigning ourselves. Is biotechnology a threat, as Francis Fukuyama warns in *Our Posthuman Future: Consequences of the Biotechnology Revolution*, one that is moving us into a dystopian “posthuman” stage of history? Or is it a boon that will not only give us “designer babies” but “designer baby boomers,” as scientist and writer, Ray Kurzweil, foresees, eliminating problems such as disease, infirmity, and plain old stupidity? Will it lead to the homogenization of our species or result in greater diversity? Will it split society into more distinct “haves” and “have nots” or act to level the playing field for all? Will it replay the horrors of state-sponsored eugenics as practiced by the Nazis or become the ultimate advantage parents can give to their children? More fundamentally, do the advances in biotechnology “violate the natural order of things,” as former chairman of the President’s Council on Bioethics, Leon Kass, asserts (qtd. in Naam, 3), or do they reflect the ongoing and inherent human drive towards self-transcendence that is our biological and evolutionary inheritance?

A cursory perusal of the titles in the science section of any bookstore today reveals an array of well-informed and provocative books by those who embrace the coming biotech revolution, most noticeably among them Gregory Stock, Ray Kurzweil and Ramez Naam. In *Redesigning Humans: Our Inevitable Genetic Future*, Stock, the director of the Program on Medicine, Technology and Society at the School Of Medicine at UCLA, creates an optimistic picture of what it would mean to alter human heredity through the bioengineering of our genes. For Stock, germline engineering “signals the beginning of human self-design.” It will do nothing less than “transform the evolutionary process” by drawing reproduction into a highly selective social process . . . more rapid and effective at spreading successful genes than traditional sexual competition and mate selection” (3,4). Indeed Stock sees *Homo sapiens* spawning its own successors by “fast-forwarding its evolution” (4). The phenomenal power at our fingertips, for Stock, is simply the natural and inevitable direction for humanity to go.

Enthusiastic as Stock is, flamboyant inventor, author, and futurist, Ray Kurzweil, has emerged as the most visible and “technoeuphoric” champion of biotechnology and the other GRIN technologies. In his most recent book, *The Singularity is Near*, Kurzweil

touts the numerous benefits that biotechnology offers, including cell therapies that will allow us to re-grow our own cells, tissues, and even whole organs and introduce them into our bodies without surgery; genetic profiling by which we will be able to identify genes and cells in processes such as aging and disease; and gene therapy we can use to actually change our adult genes (214). According to Kurzweil, these advances will allow us to reverse degenerative disease; combat heart disease and overcome cancer; reverse the aging process; and even solve the world hunger problem by cloning animal muscle tissue, thereby creating meat and other sources of protein without animals. Kurzweil dismisses the many objections to biotechnological advances and places biotechnology along with all other technologies when he says, "...technical progress is advancing on thousands of fronts, fueled by irresistible economic gains and profound improvements in human health and well-being (471). Indeed, for Kurzweil, as for Stock, not pursuing these radical technologies would be out of character for humans. As Stock so succinctly puts it, "Our history is not a tale of self-restraint (10).

Ramez Naam is another thinker who underscores the "good, pragmatic reasons to embrace human enhancement" and, in *More Than Human: Embracing the Promise of Biological Enhancement*, argues that there is "no clear line between healing and enhancing" (5). For Naam, the benefits of biotechnology are concrete and measurable. He argues that keeping people young longer would slow worldwide health spending and avoid the demographic crunch of an aging population, and, envisioning a beneficial domino effect, foresees an increase in productivity related to improvements in human memory, attention, and communication abilities that would in turn lead to new scientific discoveries and faster innovation, economic growth and scientific breakthroughs (6). From uses of genetic technologies that are already widely accepted such as those we use to prevent Down syndrome and the screening out or removal of genes that increase the likelihood of disease, it is a short step to selecting *for* a gene or engineering in a gene that reduces the risk of heart disease or cancer. As Naam puts it, "Once society is comfortable with splicing in genes to reduce risks such as obesity, staving off heart disease and diabetes, choosing genes that promote good looks or intelligence doesn't seem so shocking" (148, 149). Naam also favors controversial procedures such as therapeutic cloning which produces medically useful stem cells but no children, and even reproductive cloning on the grounds that it is the best or only way for some parents to have a biologically related child (151). Like Kurzweil and Stock, Naam clearly resonates with James Watson, co-discoverer with Francis Crick of the structure of DNA, who has bluntly stated it thus: "No one really has the guts to say it, but if we could make better human beings by knowing how to add genes, why shouldn't we?" (qtd in Stock 12).

One of the key words in Crick's statement is, of course, the word "better." What would it mean to be a better human being? Who would decide the standard for better? Do humans have the wisdom to determine this? Notwithstanding the fact that humans have always striven to improve themselves in any number of ways - physically, psychologically, spiritually, cosmetically - biotechnology raises the issue of fundamental and possibly irreversible transformation. Fukuyama sees a technology powerful enough to reshape what we are a serious threat to humanity and finds possibly malign consequences for liberal democracy and politics itself (7). Not only does Fukuyama fear obvious harms of biotechnology such as superbugs, new viruses, and toxic reactions from genetically modified food, he is distinctly uncomfortable with the gray area presented by "therapies

that blur the line between what we achieve on our own and what we achieve due to chemicals in our brains” (8). More urgently, Fukuyama is concerned with the moral and ethical dilemma biotechnology presents. As he sees it, at stake is the universal dignity of humankind as embodied in both the liberal egalitarianism championed by our secular institutions and the Christian view of the sanctity of the individual (90). Here Fukuyama’s thinking is in line not only with the conservative view as presented by the President’s Council on Bioethics, which also sees biotechnological alteration of our minds and bodies a threat to our human dignity, but also with liberals such as philosopher and bioethicist, George Annas, who has called genetic engineering a “crime against humanity,” and environmentalist and author Bill McKibben who calls for a halt on any scientific research leading to techniques to enhance human abilities (Naam 4). Although this presumed threat to human dignity crops up repeatedly, it is nebulously defined; biotechnology will somehow rob us of the higher moral status that distinguishes us from other animals, or of the presumed equal dignity all humans possess under Christian doctrine; but exactly how this will happen or why is not made clear.

Fukuyama, perhaps, comes closest to answering what exactly it is that we will lose; for Fukuyama, it is the “species-typical characteristics shared by all human beings qua human beings.” This is important, he insists, not because human nature is God-given and should not be tinkered with, as religious opponents argue, but because “there is an intimate connection between human nature and human notions of rights, justice and morality (101). For Fukuyama, human nature is what gives us a moral sense. What Fukuyama doesn’t address is the logical counterpoint to his argument, that it is also human nature that gives us the capacity for *immorality*, cruelty and a whole range of reprehensible behaviors. Nor does he entertain the possibility that biotechnological enhancement might just improve our capacity for making ethical judgments. Fukuyama implies that our morality is tied to human nature as it exists now. This may be true. It does not follow, though, that if we alter our human nature, we will become less moral. Indeed, a more evolved morality may emerge as a result of an evolved human nature.

While Fukuyama, for one, holds that our biggest concern should be the harms that “accrue to the soul” and not the body, (which, one could argue is an overly dualistic conception,) he, like others, foresees a host of “negative externalities” that could arise and argues that the future advances in biotechnology may lead to unanticipated costs or long-term negative consequences that outweigh the presumed benefits (91). Here Fukuyama is in accord with a 2004 report from the President’s Council on Bioethics, “Beyond Therapy,” which argues that genetic and reproductive technologies undermine the value of life and disrupt the natural relationship between parents and children; that slowing human aging would cause social stagnation; that it would threaten our sense of identity; that techniques to enhance human abilities could widen the gap between rich and poor, that it could lead to abuses by the powerful or by totalitarian states; that it is too dangerous; and “that to seek to improve on what we have is hubris” (Naam3,4). He also fears that “genetic engineering will embed one generation’s social preferences in the next” (95).

While Fukuyama and other opponents of these technologies raise valid concerns, their arguments reflect a static view of reality and human nature and they ignore the creativity and innovation that technological challenges provoke. According to Stock, “Extreme scenarios of this sort [the gender imbalance in China resulting from sex

selection in favor of males, for example] ignore corrective forces that usually come into play” (14). Moreover, to those who say we shouldn’t play God, that we shouldn’t manufacture our children, Stock points to the many ways we already affect the gene pool with the medical interventions we regularly employ, for example by vaccinating children from fatal diseases thus allowing them to later reproduce (132). To the argument that it is too dangerous, he argues that failure at efforts to modify human embryos would be a minor problem compared to the thousands of instances of fetal damage due to alcohol and drug abuse (135,136). And as for the fear of government imposed eugenics or mistaken choices on the part of parents, he sees the weaponization of smallpox and bubonic plague, for example, as a far greater threat and argues that keeping nascent germline technology in the open lowers rather than raises all these risks (138). Most fundamentally, Stock sees the unique position humans hold as less a result of our genetic and physiological makeup than of the “massive social construct we inhabit” and argues that “it is this social organism that gives us not only language, art, music and religion – the things that really define humanity – but the capacity to remake our own form and character (16). Ultimately, we have little choice; as Stock sees it, we are already riding the “slippery slope” and whether or not we alter our biology, our world will change so dramatically in the next 100 years that we will have to adapt in ways unimaginable just a few decades ago.

Given such scenarios, the biggest questions seem to be whether or not we have the wisdom to oversee the evolutionary leap that biotechnology represents and how we should proceed. When one witnesses the trivial and narcissistic uses to which existing enhancement technology is put – in the United States alone, 364,610 breast augmentation surgeries were performed in 2005 (asaps statistics)– one would rightly question our judgment to use the tremendous power represented by biotechnology wisely. Yet, in a reality that is dynamic and progressive, we cannot separate humanity from its achievements and we must agree with Stock when he sees in human nature the possibility of transcendence. In this respect he is in resonance with mathematician, philosopher, theologian and leading proponent of intelligent design, William Dembski, who has said, “We need to transcend ourselves to find ourselves” (qtd. in Kurzweil 476). As we attempt to evolve ourselves biologically, is it not to be expected that we will also evolve our neurological capacities? If we gain a better understanding of what it is in our biology and neurological makeup that supports improvements in our psychology and hence our character, can we not then evolve our capacity for moral judgment? Might we not even facilitate the evolution of wisdom? At any rate, it seems naïve to think that we can simply stop at the threshold and refuse to open the door that has been opened. We can only heed Georges Santayana’s famous lines and pass through to the future with a clear eye on all we have learned from the past. Only then can we move as our destiny would seem to command from these late stages of savagery and infancy into the promise of our collective future. When the Uberman knocks, we must answer. After all, he is us.

Works Cited

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