Biotech vs. "Bioethics": The Technology of Life Meets the Morality of Death

By Alex Epstein
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To those who wish to live as long, as vigorously, as happily as possible—to those who want to wring out of their time on earth every ounce of enjoyment they can—to those who believe that suffering and disease are to be fought with the full power of man's rational mind—it is time to defend a profound value: biotechnology.

Biotechnology has the potential to raise the maintenance of life to a whole new level. Path-breaking scientists and businessmen are using their dramatically increasing knowledge of the fundamentals of human genetics to develop new technologies with the potential to extend human life by decades—eventually, maybe even by centuries.

Here are a few of the possibilities for the not-too-distant future. Regenerative medicine offers the potential to replace a diseased organ with a new one, grown from embryonic stem cells, that is a perfect genetic match. Genetic pharmacology promises access to a far wider variety of drugs than we have today, and drugs that are safer and more effective because they are customized to your own genetic makeup. Genetic testing would allow you to know with certainty your disposition toward various genetic diseases instead of relying on imprecise guesswork using family trees. Gene therapy promises to cure genetic diseases by "switching off" the function of bad genes in your body. And genetic engineering has the potential to improve the genetic makeup of your children, ridding them of genetic diseases and disabilities, and perhaps even giving them improved immune systems, fitter bodies, and greater intellectual capacities.

These bold new technologies are all cause for excitement and hope. Yet it is far from certain that you will benefit from any of these life-giving advances, not primarily because of doubt about whether some are scientifically feasible, but because of widespread confusion and uncertainty about whether they are morally desirable.

The morality of stem cell research and human cloning is already being fiercely debated. And these controversies are not mere fodder for discussion groups—they are being used to justify crippling regulations on scientific research. There is serious danger that Congress will pass a bill that bans all forms of human cloning, prohibits the use of any procedure derived from cloning research, and threatens any scientist who attempts cloning with ten years in prison.

As new technologies emerge, the controversies and the resulting potential for legislative destruction will only multiply—or worse, bans passed on existing technologies will prevent new discoveries from emerging in the first place.

The attitude of most Americans toward biotechnology is neither unbridled enthusiasm nor total aversion, but deep-seated ambivalence: a combination of excitement about biotechnology's pro-life potential and fear of its alleged moral dangers. President Bush exemplified this attitude in a speech on embryonic stem cell research: "As the discoveries of modern science create tremendous hope," he said, "they also lay vast ethical mine fields."

In the case of embryonic stem cell research, most Americans, while excited about the technology's healing potential, are at least morally uneasy about creating and destroying embryos to harvest their stem cells. Americans are even more conflicted about human cloning, which is indispensable in regenerative medicine, since it makes possible the growth of replacement organs that are a perfect genetic match to the patient, but can also be used to conceive a cloned child, which polls show 90% of Americans believe is wrong.

This ambivalence is compounded by the repeated rehearsal of ominous pronouncements about where the biotech revolution is leading. We hear vague talk about "playing God" or "tinkering with the gift of life" or "challenging what it means to be human"—plus an unending litany of concrete horror scenarios allegedly illustrating biotechnology's destructive potential: cloning experiments gone awry producing mangled sub-humans; a society divided into genetic castes, as in Brave New World; a resurrection of government "eugenics" programs that would eliminate the genetically "unfit," as in Nazi Germany; mad scientists and dictators using biotechnology to enact their evil designs, as in The Boys From Brazil.

All sides in this debate are right about one issue: the moral issues regarding biotechnology are a matter of life and death. Whether our biotech future will be one in which scientists are free or one in which their labs are controlled by government minds—whether you get that stem cell treatment in 10 years or 30 years or never—depends on the moral conclusions we
choose to embrace.

In response to all of this moral confusion, when no one seems to have any clear-cut answers about the morality of biotechnology, the culture has done something uncharacteristic. It has turned for guidance to the one group of people that is usually ignored on every current political and cultural issue: philosophers-specifically, a relatively new species of philosopher called the "bioethicist."

"Bioethics" is the discipline that applies moral philosophy to evaluate and guide the use of human genetic technology. Among other things, experts in bioethics are called upon to distinguish which uses of biotechnology are morally good and which, if any, are morally mixed or evil; to set rules designed to keep scientists from transgressing such boundaries; and to prescribe what, if anything, the government should do to encourage or discourage biotechnology.

Most bioethicists are professional philosophers (including theologians) whose followers include doctors, cultural commentators, and scientists. With the rise of the nascent field of biotechnology, these bioethicists have acquired an important cultural influence.

Bioethicists have been called to testify before Congress by all sides in the stem-cell and cloning debates, and in 2001, President Bush created the 18-member President's Council on Bioethics, which by charter exists to undertake a "fundamental inquiry into the human and moral significance of developments in biomedical and behavioral science and technology."

Bioethicists are in even more demand among biotech companies, who appoint them to advisory boards, hire them as consultants, donate millions of dollars to university bioethics programs, and-most crucially-repeat their arguments. In 1999, when Geron Corporation announced that it was conducting pioneering research with embryonic stem cells, it released, along with scientific reports, a statement signed by its five-member Ethics Advisory Board naming the moral guidelines under which the destruction of embryos (a procedure required for this research) could occur. In 2001, when Advanced Cell Technology announced that it had cloned the first human embryo, it also made sure to announce that its Ethics Advisory Board unanimously approved of the research. Simon Best, CEO of Geron Bio-Med (a subsidiary of Geron), explained the rationale for such boards at a meeting of the Biotechnology Industry Organization, the leading industry trade group: "We in the industry are not experts in ethics. Forming an ethics advisory board to deal with both scientific discoveries and the conduct of business is therefore a strategic and moral necessity."

For a culture to turn to moral experts for moral guidance is a good thing—if they are indeed experts. Those with knowledge of a proper ethics, plus knowledge of the various scientific developments in biotechnology, would be best qualified to explain how to apply the former to guide the latter.

Given such knowledge, any legitimate bioethicist would have to begin by saying one thing about biotechnology: it is a profound moral good.

The advances promised by biotechnology—all forms of biotechnology—are staggering in their potential to improve human life. Biotechnology is the latest and perhaps greatest phase of the scientific revolution that has brought medicine from bloodletting and amputation to modern pharmaceuticals and artificial hearts—and has helped to nearly double human life spans in the past 100 years.

Biotechnology is good for the same reasons all of these previous advances were good: because it is good for individuals to act to sustain and improve their lives. It is good to use technology to prevent or cure genetic ailments—because it is better to be fit and healthy than to be diseased and disabled. It is good to use technology to enhance our children’s genetic makeup—because it is better to be smart rather than stupid, to be beautiful rather than ugly, to have a strong immune system rather than a weak one. It is good to grow new organs to repair a damaged heart—because it is better to live than to die.

The moral problems allegedly inherent in biotechnology are illusory—as are the litany of horror scenarios cooked up by enemies of biotechnology. Those that are not simply fantasies, impossible as a matter of scientific fact, are based on the fallacy of citing a potential abuse of a technology to argue against all uses of the technology.

Like any technology, biotechnology can be abused. Just as a computer programmer can create computer viruses, governments can institute eugenics programs and doctors can be negligent in attempting unsafe procedures on unwitting human guinea pigs—but this does not change biotechnology’s basic moral status. To ban genetic engineering because a government might abuse it, for example, is no more valid than passing a law that bars parents from being alone in a room with their children, since some parents beat their children in such a situation. Any potential abuse of a technology is at most an argument for outlawing that particular perversion of the technology, not for depriving us of the beneficent use of biotechnology.

As part of endorsing biotechnology, bioethicists should morally praise the creators of biotechnology. The proper moral attitude toward the heroic scientists and businessmen who are developing this technology should be a profound respect and gratitude. As a consequence, the proper political attitude toward biotechnology is that its producers and customers
should be free to pursue it as they choose. The government's only role should be to protect the individual rights of these producers and customers. Examples might include protecting the intellectual property rights of scientists who discover new technologies and procedures; safeguarding an individual's "genetic privacy" by barring others from obtaining a hair or skin sample and running a genetic test on it, or even cloning the person, without his permission; and prohibiting medical negligence, such as conceiving a cloned child using current technology, given the high failure rate of these techniques in animal tests.

In sum, a proper bioethicist's view of biotechnology would be: biotechnology is good, its creators are good, and they should be left free.

Unfortunately, today's bioethicists hold the exact opposite view. While today's biotechnologists are using the most advanced science and technology to advance human life, bioethicists, like the rest of today's moral philosophers, have barely advanced past the Dark Ages morally-and thus offer moral guidance for biotechnology that is inimical to the field. Where they should clarify, they confuse; where they should debunk bogus objections to biotechnology, they offer a deluge of new ones; where they should morally defend the creators of biotechnology, they treat them as morally insignificant; where they should support freedom, they support bans or government takeovers that no politician would dare dream of-yet.

Today's bioethicists can be divided into two major schools, the biotech doomsayers and the academic bioethicists. Neither camp admits being fundamentally opposed to biotechnology, and many bioethicists even claim to support it enthusiastically. Far from associating themselves with the Dark Ages, bioethicists largely claim to be enlightened, modern, pro-technology, secular. These claims, however, are dishonest and only highlight the urgency of exposing the bioethicists and their moral doctrines for what they really are.

Let us first examine the biotech doomsayers, who are the most prominent group of bioethicists today. The doomsayers are a loose coalition of theologians, nominally secular philosophers, religious conservatives, and environmentalists, all united in their belief that biotechnology has the potential to lead mankind to disaster.

Although the doomsayers often invoke horror scenarios about biotechnology's destructive potential, the future they decry is not primarily one of mad scientists and genetic caste systems, but something more esoteric.

By using powerful technologies with the power to alter man and his offspring, they claim, we will enact a fundamental and malevolent change in what man is-in "human nature." Such a change would mean the loss of that which is essential to our nature-that which separates us from the animals and gives rise to our distinctive form of life-that which gives us our "humanity."

"In our desire to become the architects of our own evolution, we risk the very real possibility of losing our humanity," write William Kristol and Eric Cohen, conservative commentators-turned-bioethicists.

"We need to foster new levels of awareness, organization, and engagement-in short, a new social movement-committed to affirming the integrity of the human species and opposing the new techno-eugenics and the post-human ideology.. There is no greater challenge. Our common humanity is at stake," writes Richard Hayes, of the Worldwatch Institute, a prominent environmentalist think-tank.

"The humanity of the human future is now in our hands," writes University of Chicago bioethicist Leon Kass. He elaborates: "I exaggerate somewhat, but in the direction of the truth: we are compelled to decide nothing less than whether to say yes in principle to the road that leads to the dehumanized hell of Brave New World."

Kass, the Chairman of the President's Council on Bioethics, is the undisputed leader of today's doomsayers. He is their most prolific and influential spokesman-and his arguments are repeated often by political conservatives. Other prominent influences on the doomsayers are commentators on genetic technology from generations past, who projected moral dangers surrounding biotechnology long before the recent scientific advances: Christian writer C.S. Lewis, author of The Abolition of Man; theologian Paul Ramsey, author of Fabricated Man; and novelist and social commentator Aldous Huxley, author of Brave New World, to which the doomsayers constantly refer.

To destroy our "humanity," say the doomsayers, means to destroy the way of life that is a consequence of what makes us human, including such values as morality, rights, culture, art, civilization, human dignity. This is projected most famously in Huxley's 1932 novel, set some 600 years in the future, in a world in which human beings are manufactured in a laboratory to precise specifications, placed into a system of genetic social castes, and then conditioned to behave as mindless robots to serve statalist, collectivist goals such as "Community" and "Stability." As a result of his conditioning, man in Brave New World is entirely different from man as we know him. Most noticeably, his life is spiritually devoid. Romantic love no longer exists, only mindless sex with ever-changing partners; no one has family attachments any longer, since human beings are born in factories and "mother" has become a four-letter word; there are no deep friendships, only superficial, momentary affinities; there is no art-only mindless games and a gratuitous perversion called the "feelies." There is nothing grand, purposeful, exalted, or happy about this "brave new world"-the "humans" that inhabit it are mere responders to stimuli.
It is this world that we seek to prevent, say the doomsayers, who vigorously deny the charge that they are mere reactionaries or religious dogmatists. "The claim that I'm some sort of Luddite is just ridiculous," says Kass. Even the committed religious intellectuals in the movement, like Lewis and Ramsey and their modern-day followers, make secular-sounding arguments about the dangers of biotechnology, avoiding explicit appeals to submit to God's will.

Nor, doomsayers say, are they inherently opposed to biotechnology-though it is hard to find a single biotechnology they all approve of. Instead, they say they are concerned with the "dehumanizing" potential of certain specific technologies. "It is our task to find ways to preserve [a human future] from the soft dehumanization of well-meaning but hubristic biotechnical 'recreationism'-and to do it without undermining biomedical science or rejecting its genuine contributions to human welfare," declares Kass.

Thus, by their self-characterization, the doomsayers are not mystics dogmatically opposed to all biotechnology as "playing God," but "humanists" who approve of biotechnology yet are concerned on strictly secular grounds about real dangers to our "humanity."

In fact, the doomsayers are religionists, to an extent far greater than most of their detractors think. They apply religious ideas to the technology of the 21st century, but dress them up in secular garb. Their goal is not a proper human life, but a religious regression away from one.

The key to understanding the doomsayer position is to ask them to define their terms. What is "human nature"? What gives us our "humanity"? What constitutes a "human way of life"?

Such questions are obviously essential to understanding their position; any argument that "human nature" is being modified or that our "humanity" is being destroyed by biotechnology presupposes a definition of what "human nature" and "humanity" are. One must be able to name what is being threatened and how. If the doomsayers were intellectually forthright about their premises, their answer would be stated explicitly and repeatedly in their writing.

But while doomsayers offer innumerable arguments that these human values are threatened, they never define what they are. At best, they offer vague descriptions of something pertaining to man's spiritual life, e.g., "a way of being that has engagement, depth, virtue, and meaning" or "man as something more than a bundle of impulses seeking release and a bunch of itches seeking scratching." But as a rule, they merely throw around terms like "human nature," "humanity," and "human dignity" as if their meaning is self-evident-in arguments in which their meaning is decidedly unclear.

The doomsayers do have a definite view of human nature that they are operating from; but to discover it requires some philosophical detective work, since they refuse to identify it.

A major clue is offered by the vagueness itself. The common premise throughout the doomsayer literature is that human nature is something fundamentally mysterious and unknowable.

Sometimes this is stated explicitly. "We would be the last to claim that we know what human nature is," write environmentalists Brian Halweil and Dick Bell in an article condemning germline engineering-the process of directly modifying the genes of one's offspring by modifying the egg and sperm cells-as a threat to human nature. But more often it is implicit in an argument that appears throughout the doomsayer literature: that man is not "wise" enough to use these powerful technologies-especially those involving designing one's descendants-and thus will inevitably "dehumanize" himself. Paul Ramsey and C.S. Lewis both made this argument in their writings on genetic engineering; they did not claim that genetic engineering was bad because it would engender a specific destructive change in man (such as, say, depriving him of his ability to reason), but that any change was potentially destructive, given man's lack of wisdom about his own nature and the nature of the good. Here is Leon Kass making a similar argument in one of his early essays, applied not only to genetic engineering, but to all "new ways for making babies," including in vitro fertilization:

In the absence of standards to guide and restrain the use of this awesome power, we can only dehumanize man.. The knowledge of these standards requires a wisdom we do not possess.. In the absence of such wisdom, we can be wise enough to know that we are not wise enough. When we lack sufficient wisdom to do, wisdom consists in not doing. Restraint, caution, abstention, delay are what this second-best (and maybe only) wisdom dictates with respect to baby manufacture, and with respect to various other forms of human engineering made possible by other new biomedical technologies.

In the same article, when listing potential threats to "human nature" that could undermine our "humanity," Kass cited the following hash of technologies:

Birth and death, the boundaries of an individual human life, are already subject to considerable manipulation. The perfection of organ transplantation and especially of mechanical organs will make possible wholesale reconstructions of the human body. Genetic engineering, a prospect already visible on the horizon, holds forth the promise of a refined control over human capacities and powers. Finally, technologies springing from the neurological and psychological sciences (e.g., electrical and chemical stimulation of the brain) will permit the
So not only is "human nature" threatened by "alteration of the higher human functions," but also by a laundry list of unrelated changes, including longer life spans, organ transplants, and artificial hearts. The implication is clear: human nature is something that we don't (and can't) know with any precision. At best, we can grope for partial answers and, acknowledging our ignorance, abstain from monkeying around with the human.

Another clue to the doomsayer view of human nature is the pervasive premise that it is "dehumanizing" for man to be modified by or to be the product of technology. For example, stem cell research and all embryo experimentation are criticized by Kass as "the commodification of human life": in vitro fertilization and genetic engineering are criticized as "turning begetting into making" or "procreation into manufacture." Cloning is "a major step into making man himself simply another one of the man-made things. Human nature becomes merely the last part of nature to succumb to the technological project, which turns all of nature into raw material at human disposal, to be homogenized by our rationalized technique according to the subjective prejudices of the day." Clearly, in the doomsayer view, to be a man-made, technological product is somehow contrary to our humanity.

Final clues to the doomsayer view of human nature can be found in their groping arguments about how technologies like cloning, stem cell research, and germline engineering undermine a "human way of life." The two dominant themes are that biotechnology is too "materialistic" and too selfish.

A central implicit criticism of genetic engineering (and technology in general) in Brave New World was that because these technologies were so focused on man's physical well-being-minimizing pain, maximizing pleasure, staying healthy, enjoying sex-they inevitably harmed his spiritual life. "What Huxley realized," explain Cohen and Kristol, "is that 'perfecting' our lesser desires means forgoing our higher ones-a Faustian bargain." This theme is echoed throughout the doomsayer literature, where biotechnology is criticized as being overly concerned with physical survival-to the necessary neglect of spiritual values.

Similarly, biotechnology allegedly encourages individuals to focus too much on themselves. Gilbert Meilander—a theologian and member of the President's Council on Bioethics whom Cohen and Kristol refer to, along with Kass, as one of two "writers and thinkers on bioethics [who], in particular deserve special mention"—says of screening embryos and fetuses for genetic diseases or disabilities: "Not only is the meaning of childhood distorted but the meaning of parenthood as well. Selective abortion means selective acceptance. The unconditional character of maternal and paternal love is replaced by choice, quality control, and an only conditional acceptance." Translation: the "humanity" of parenthood is undermined if the parent selfishly chooses not to have a retarded or deformed child, and instead takes measures to have a fully healthy one. Kass criticizes germline engineering and cloning as encouraging "society increasingly to regard a child not as a mysterious stranger given to be cherished as someone to take our place, but rather as a product of our will, to be perfected by design and to satisfy our wants." Of extending life, which doomsayers deride as seeking "immortality," Kass says: "Biological considerations aside, simply to covet a prolonged life span for ourselves is both a sign and a cause of our failure to open ourselves to procreation and to any higher purpose."

Given these clues, we can now ask: what world view holds that "human nature" is mysterious—that its spiritual aspect is the higher element while its relationship to the material world taints its dignity—that concern for the material world and oneself are anathema to a proper human life, and that one should embrace a "higher" purpose? All of these premises are fundamentals of religion, with its metaphysical dichotomy between soul and body.

According to the soul-body dichotomy, man's soul and body are separate, opposed, in conflict with each other. The soul, by this view, is man's higher element—it is the part of him that is closer to the infinite spirit that is God. His body, by contrast, is low, grubby, material, finite, mortal. Man, according to the soul-body dichotomy, is made "low" by his body and its this-worldly concerns; he should, as much as possible, pursue his "higher" nature by renouncing this world and sacrificing his welfare in it. Wealth, health, pleasure, and technology are by their nature base, fleeting, incomplete. It was the acceptance of this doctrine in the Dark and Middle Ages that led to the renunciation of the material world in hopes of bringing man closer to God and securing for him eternal paradise in heaven.

Crucially, although man can have some knowledge of his nature, according to the soul-body dichotomy, he can never fully understand it because of its partially mystical nature. Just as God cannot be understood by reason, human nature is not fully knowable to man's reason.

Because of their view of human nature, the doomsayer position that biotechnology is "dehumanizing" is understandable: biotechnology is a complete repudiation of the religious view of man and of morality. Religion tells man that this world is unimportant—biotechnology exists on the premise that this world is everything. Religion tells man to be selfless, to compensate for his low, material nature by sacrificing to something higher—using biotechnology to prolong one's life is the epitome of selfishness and the ultimate rejection of any purpose "higher" than one's own life.

But the doomsayer view of human nature is fundamentally wrong. The actual essence of human nature—that which lies at
the heart of his unique mode of existence—is man's rational mind.

Man's mind is the source of his volition and thus his status as a self-made, moral being, a being of dignity to be given credit for his successes and held responsible for his failures. The nature of man's mind, including the connection between his ideas, his values, and his emotions, makes him into a spiritual being whose quest for survival includes a concomitant quest for such values as art, love, and happiness. And it is man's mind that is responsible for his unique form of survival: the use of reason and science to understand nature and remake it to serve his needs.

Yet this last is the essence of biotechnology. Biotechnology entails using advanced conceptual knowledge to discover our innermost biochemical workings in order to better act to sustain and improve our physical well-being, and perhaps even pass on to the next generation improved physical or mental capacities. Far from any of these things being a threat to human nature and human dignity, they are expressions of human nature and affirmations of human dignity. They are products of man the hero, who overcomes obstacles, refuses to resign himself to suffering, and seeks to live life to the fullest. If a man takes a skin cell and combines it with an egg to create a cloned embryo, then extracts its stem cells and grows himself a new heart, he has not ceased to become human—he has done the most human thing of all: he has used his mind to reshape the world for his benefit.

It is precisely for this reason that biotechnology is such an affront to religion. It is an affirmation of the power of human reason and an exercise of human pride.

Pride is the virtue of valuing and pursuing this-worldly perfection. Pride depends on the belief that the good is both knowable and achievable to man—that man can improve his life on earth and that to do so is good. Biotechnology represents the quest to perfect life, not only by improving our surroundings, but by improving ourselves. The implicit message is clear: man can improve on nature and himself, and he should do so.

Pride, according to religion—especially Christianity—is the ultimate sin. It entails two things no religion can countenance: an exalted view of this world and an exalted view of one's self. C.S. Lewis writes, in Mere Christianity: "The essential vice, the utmost evil, is Pride. Unchastity, anger, greed, drunkenness, and all that, are mere flea-bites in comparison: it was through Pride that the devil became the devil; Pride leads to every other vice: it is the complete anti-God state of mind. As long as you are proud you cannot know God."

The doomsayer argument that man is not "wise" enough to try to improve the human and will inevitably "dehumanize" himself is merely a secular version of "Pride goeth before a fall"—and a slightly more technical version of the religious reactionary argument that man should not "play God."

It is the hatred of pride that the avowed religionists among the doomsayers share with the environmentalists. Both believe that man is low, unimportant, metaphysically ignorant, and should not have the "hubris" to modify nature; they only differ in that the environmentalists equally oppose all modification of nature. The rest of the doomsayers, however, are not far behind. They write disparagingly, not only about biotechnology, but about the life-giving technological revolution of the past 500 years. Kass writes: "Look at what we have done in our conquest of non-human nature. We shall find there no grounds for optimism as we now consider offers to turn our technology loose on human nature." William Kristol writes of "a civilization that may have gone too far already in the commercialization and destruction of the human and ecological worlds." C.S. Lewis writes: "It might be going too far to say that the modern scientific movement was tainted from its birth: but I think it would be true to say that it was born in an unhealthy neighborhood and at an inauspicious hour. Its triumphs may have been too rapid and purchased at too high a price: reconsideration, and something like repentance, may be required."

The doomsayers' allegedly secular argument that man must pursue biotechnology in accordance with his "humanity" actually means that he must pursue it in accordance with religion—and against actual human nature. Taken seriously, this means we cannot pursue biotechnology at all.

Given the doomsayers' basic attitude toward biotechnology, it is predictable that they are for some major prohibitions. They have come out for a total ban on cloning and advocate one on germline engineering as well. But what about other technologies, like gene therapy or genetic testing? How do they determine where to draw the line, especially since they offer no definition of the "human nature" and "humanity" they allegedly seek to protect?

Few of the mainstream thinkers have named a method for judging such matters—perhaps because it would be too revealing—preferring to focus on the concrete issues of the day, on the one hand, or to meditate in vague terms on the moral meaning of biotechnology as a whole, on the other.

It is the environmentalists who have codified the doomsayers' attitude into a principle guiding social policy: the "prudential principle."

The prudential principle is broader than biotechnology; it applies to all technology. Brian Halweil and Dick Bell of the Worldwatch Institute write: "Under this principle, before we unleash a new technology, its proponents must first demonstrate
convincingly that the technology is not likely to subject us to major new risks. In the event that there are serious uncertainties about what problems may appear, governments are empowered to regulate and restrict development until these uncertainties can be resolved."

This is a prescription for doomsayers to arbitrarily assert undefined threats or horror scenarios and use them as a justification for government force. It forces the advocates of biotechnology to defend themselves by means of a logical fallacy: the attempt to prove a negative-to prove that a given biotechnology will not cause some unspecified disaster. If there is any doubt about the goal of such a principle, the authors remove it: "In a sense, the precautionary principle is a way of legislating the humility which humanity has so long lacked in dealing with technological change."

Kass has implicitly endorsed a similar method in his writings on cloning, in which he says that we should "require the proponents to show very clearly what great social or medical good can be had only by the cloning of human beings. Surely it is only for such a compelling case, yet to be made or even imagined, that we should wish to risk this major departure-or any other major departure-in human procreation."

Since the threats and risks are debated without any clear definitions, whether the government is "empowered to regulate and restrict development" will come down to the public's emotion-as shaped by the legacy of centuries of religion. The cloning debate was typical in this respect: everyone agreed, for no clear reason, that reproductive cloning should never occur, mostly because it made people uncomfortable. This feeling, garnished with occasional references to "human dignity," was considered sufficient. Far from being something that doomsayer bioethicists will help dispel by encouraging clear debate, this is the shape of things to come. And Kass has even voiced his approval for such an approach, coining the expression "the wisdom of repugnance." "In crucial cases, repugnance is the emotional expression of deep wisdom, beyond reason's power fully to articulate it."

Thus, in the ultimate vision of the doomsayers, our scientists are to be ruled at gunpoint by the emotional sensibilities of the public, as shaped by religion.

If the doomsayers are indeed mystics in disguise, how do they maintain a veneer of secularism and concern for human values? The answer lies in the roots of the doomsayer perspective in a pervasive false alternative institutionalized by the philosopher Immanuel Kant: the view that human nature is either something mystical and high or rationally understandable and low.

Kant's avowed goal was to save religion and religious morality from the onslaught of the scientific Enlightenment. He did this by means of a complex secular philosophical argument that denied the validity of reason, arguing that man could not know reality "as it really is," only the world as we subjectively perceive and filter it. The unknowable reality "in itself" he called the "noumenal" world, and the filtered reality the "phenomenal" world. Although reason and science allow us to understand the phenomenal world, he said, we can never know the noumenal world-and are thus free to believe in things contrary to reason and science, like God, the immortality of the soul, and free will.

Free will, Kant held correctly, is a precondition of morality, individual rights, and human dignity-but he also held, incorrectly, that free will contradicts science and so, like the existence of God, must be taken on faith.

Subsequent thinkers discarded Kant's noumenal world but accepted his belief that science contradicts free will and that determinism-the idea that man is just an automaton moved by biological and social forces-is the scientific position.

The end result of Kant's arguments about human nature was a lasting association of free will-and thus any exalted view of man-with the mystical, and an association of any scientific understanding of man with determinism.

Since Kant, determinism has been pervasive in the physical and social sciences. Despite the fact that scientists, like all humans, have constant introspective evidence of man's ability to choose, to think, to make logical connections, to act purposefully, many scientists treat man's mind as a deterministic collection of electrical impulses and his behavior as that of a complex billiard ball, rat, or chimp. Manifestations of this determinism include the alleged alternative of "nature vs. nurture," evolutionary psychology's talk of "genes for altruism," and the idea that poverty causes crime.

Tragically, determinism has been especially pervasive in the field of genetics. Historically, many geneticists have openly challenged the view that man is higher than the other animals, that he has free will, that there is something sacred or noble about his mode of existence. "Humanistic culture," wrote the great biologist Joshua Lederberg in 1966, "rests on a definition of man which we already know to be biologically vulnerable."

Like most determinists, many of these scientists have been advocates of collectivism seeking to engineer individuals to best serve "social goals" by encouraging reproduction of the physically, mentally, and morally fit. On this last, Nobel Laureate geneticist H.J. Muller wrote that one of "the most important genetic objectives, from a social point of view," is "the improvement of those genetic characteristics which make for those temperamental qualities which [favor] fellow-feeling and social behavior rather than those (today most esteemed by many) which make for personal 'success,' as success is usually understood at present."
The classic and horrifying example of this collectivist attitude was the "eugenics" movement-an attempt to apply to humans the same selective breeding methods used for farm animals-that flourished in the first half of the 20th century and re-emerged in the 1960s and 70s with talk of a need to combat the supposed degradation of the gene pool. Like all collectivist programs, the eugenics movement had no regard for individuals, subordinating them to the mystical "common good," and thus authorized atrocities against them.

In reality, although the collectivist fantasies of re-engineering the human species into inhuman automatons should be condemned as evil, they should not be feared as possible since they rely on the false premise of determinism. Man cannot be conditioned into the mindless robot portrayed in Brave New World because he has a volitional mind.

Man's moral values are not determined by genes or by "social conditioning"; they are determined by his thinking. Whether an individual is an egoist, altruist, or some combination is not a matter of a gene that some scientist can alter. Man's brain surely is given its capacities by genetics, but not its content-that is the product of perception, conceptualization, and thinking.

It is the Kantian packaging of mysticism and free will vs. science and determinism that has made possible the widespread appeal of the doomsayer position and the general unease with biotechnology. People who legitimately want to defend an exalted view of man associate any attempt to understand or improve man with the determinist, materialist view of man. They associate an attempt to clone a human being with a Brave New World-like, "eugenic" attempt to engineer interchangeable automatons. People associate any attempt to gain a further scientific understanding of man with a threat to free will and human dignity. And thanks to the collectivist history of some advocates of genetic technology, they associate biotechnology with anti-individualism.

The term "eugenics" is itself an example of these false associations. "Eugenics," in its modern usage, is a package-deal that lumps together the same term voluntary use of genetic manipulation to benefit one's own future child, and coercive use of genetic manipulation to serve the collective or state. One is consistent with and an affirmation of individual rights and human dignity-the other, by virtue of its collectivism, is a denial of these values. Eugenics was "dehumanizing" because of its collectivism and determinism, not because of any given genetic technology that the collectivists could fantasize about using to accomplish their evil ends. This critical distinction is one that doomsayers have never been able-or willing-to make.

Biotechnology is not a threat to man-to the contrary, it would be an assault on human nature, human dignity, human civilization to oppose this new achievement of man's mind. But what is a threat to man is the Kantian false alternative between science and free will, and the prominence it gives to mysticism and thus to the doomsayers.

If the moral guidance offered by the doomsayers is the application of religion to biotechnology, what alternative is offered by the other main camp of bioethicists?

In the halls of universities and think-tanks lurk the academic bioethicists-a superficially disparate group of mostly secular philosophers immersed in the methods and premises of contemporary academic philosophy. In contrast to the biotech doomsayers, the academic bioethicists have a reputation among the biotech industry, the media, and politicians for being pro-science, pro-biotech, pro-progress-at least in comparison to their religious counterparts. This reputation is reinforced both by the bioethicists themselves and by the doomsayers, who often criticize them as "apologists" for science.

"In any discussion of cloning, stem cell research, germ-line engineering, and the like, it is usually the professional bioethicist who can be relied on to take the most permissive position of anyone in the room," writes Francis Fukuyama, a partial doomsayer, in his popular book Our Posthuman Future. A "pioneer of bioethics" opposed to its current state is quoted in the religious publication First Things (a magazine with which many members of the Kass council are affiliated) as saying of the academics: "A bioethicist is to ethics what a whore is to sex."

In contrast to the doomsayers, academic bioethicists express no fundamental opposition to man "playing God." Almost all support embryonic stem cell research and therapeutic cloning, and some even support much-opposed technologies like reproductive cloning and germline engineering. In general, they speak and write approvingly of biotechnology's capacity to save lives and relieve suffering. Far from being fear-mongers for the future, many sound downright enthusiastic about it.

Take Arthur Caplan of the University of Pennsylvania, perhaps the most prominent and oft-quoted academic bioethicist, whom The Chronicle of Higher Education has called "the man to call on Bioethics" and "America's most visible commentator on Bioethics." Caplan routinely makes statements about biotechnology that make him seem like an apostle of scientific progress. On the subject of so-called "designer babies," for example, he recently argued: "We already engage in designer-baby technology now. That is what amniocentesis, preimplantation genetic testing of embryos, and chorionic villus sampling are all about-avoiding unwanted genes either by not implanting certain embryos or aborting fetuses. My view is that it is a good thing to try to improve the abilities and capacities of your children. This is why we create schools and summer camps and tennis programs." When the composition of the President's Council on Bioethics was announced, Caplan was highly critical: "Advocates of the value of bold scientific progress are barely represented while those whose
impulse is to be skeptical about scientific and medical advances abound.

Not all academic bioethicists share Caplan's degree of proclaimed enthusiasm for biotechnology. Academic bioethicists have a wide variety of views and engage in fierce debates on new and potential biotechnologies like cloning and germline engineering-just as they do on traditional medical ethics issues like abortion, euthanasia, and the sale of organs for transplantation. But they are mostly secular, generally support biotechnology's capacity to save lives, and even claim to respect an individual's freedom of choice. (One of the genuine successes of academic bioethics has been to popularize the principle of "informed consent," the idea that doctors and medical researchers must obtain the full, knowing authorization of patients before treating or experimenting on them.)

The generally held views of academic bioethicists are best summarized by bioethicists Tom L. Beauchamp and James Childress in their book *Principles of Biomedical Ethics*, widely regarded as the premier text in academic bioethics, now in its fifth edition. They advocate several basic principles that the moral practice of medicine and biotechnology must adhere to, including the principles of "beneficence" and "nonmaleficence," the requirement that medicine benefit the patient and "do no harm," and "respect for autonomy," the requirement that an individual be free to make his own medical decisions. These principles, properly interpreted, are entirely compatible with support for biotechnology.

The perceived friendliness of professional bioethicists to biotechnology, especially in comparison to doomsayers like Leon Kass, has led the biotech industry to put their money-and their mouths-behind them, in a search for much-needed moral support. Unfortunately, scientists and businessmen are tragically mistaken in thinking that these contemporary philosophers provide an antidote to contemporary religionists. The academic bioethicists are just as hostile to the biotech industry as the religious ones-but in a different and more subversive way.

When evaluating a movement's position on biotechnology, it is crucial to remember that this technology is not plucked from the ground. Merely refraining from banning it will not automatically bring it into existence. Biotechnology is a complex product of human thought and effort. It must be produced by scientists and businessmen expending a sustained effort over a long period of time. Biotechnology is the product of years of rigorous scientific research and years of experimentation and development. It requires that businessmen risk millions or even billions invested in research and development, in the construction of state-of-the-art manufacturing facilities, in hiring personnel and marketing the final product.

To morally support biotechnology, one must support its producers-and advocate the freedom that they require to function. One must support the moral rights of scientists and businessmen to the unfettered pursuit of knowledge, productivity, and profit. In a word, support for biotechnology requires a proper view of justice-moral and political-toward the biotech producers.

Any degree of support the academic bioethicists seem to offer for biotechnology is invalidated by their view of justice-one that holds that producers do not deserve moral credit for their achievements, have no moral right to profit from their productive ability, and should not be left free to do so.

Academic bioethicists claim to be champions of justice. Indeed, "justice" is the fourth guiding principle in Beauchamp and Childress's *Principles of Biomedical Ethics*. By "justice," however, academic bioethicists mean something profoundly unjust-the inversion of justice known as "social justice."

"Social justice" is the idea that all values belong to the collective and should be distributed by the government according to the needs of its members. Individuals, in this view, deserve food, clothing, shelter, transportation, money, and medical care, not because they have earned these things, but simply because they lack or need them.

The argument offered for "social justice" is always some form of determinism. Individuals, its advocates argue, are not responsible for their own success or failure. Success is not a product of individual choice and effort, but rather of one's "genetic endowment" and "social position"-nature and nurture-which are not earned but rather "arbitrarily distributed" by the "natural and social lotteries." "Justice" demands, therefore, that we seize the values of the lucky winners of life's "lottery" and give them to the unlucky losers of this arbitrary game.

"Social justice," also referred to as "distributive justice," has completely swept academic philosophy and bioethics to the point that philosophers use "justice" and "distributive justice" interchangeably. To them, the question of justice is not: "What do individuals deserve?" but "How do we fairly distribute 'society's' values?"

The most common (and consistent) answer is: as equally as possible. The most popular variant of "social justice" is egalitarianism, the idea that equality is the standard of justice-that everyone, from the lowest bum to the most productive businessman, should share equally in a society's supply of wealth, prestige, political power, college degrees, and, of course, medical care.

Many bioethicists, in an attempt to dissociate themselves from the all-too-obvious destruction caused by an attempt to institutionalize pure egalitarianism, advocate some other variant of "social justice." The utilitarians, for example, declare that
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Justice is whatever distribution of values gives the greatest pleasure to the greatest number, while the communitarians claim that justice is whatever distribution meets "community standards." "Qualified" egalitarians say they are willing to accept some inequalities, as long as they can be shown to benefit the "least advantaged" members of society. Whatever the variety of "social justice," though, all of its advocates are united on one essential: "justice" demands the sacrifice of "haves" for the sake of "have-nots"; the needs of the second are a claim on the lives of the first. And thus they all share the same view of producers.

"Social justice" is a moral assault on producers as such. It means that the values individuals create do not belong to them, but to any person who claims to need them. Consider the biotech producers. If "justice" demands that individuals have access to whatever biotechnology happens to exist, without having to pay for it, then those who produce biotechnology—those who devote years of study to gaining the requisite knowledge, who supply the venture capital, who do the research, who write the business plans and build the manufacturing facilities—are the duty-bound moral servants of those who have produced nothing.

This view of producers is an essential aspect of the morality of altruism. "Social justice" is, in fact, simply a social-political restatement of altruism—it is altruism instituted by force. The morality of altruism says that the individual must live his life in selfless service to others, sacrificing for their sake. "Social justice" merely names the logical implication of this code and says that the needy recipients of his obligatory sacrifice deserve the individual's sacrifice, and thus in justice he should be forced to make it. If a great producer like Warren Buffett, for example, refuses to altruistically spread his billions among the world's savages, then "social justice" consists of forcing him to dispense them.

The basic political policy of the academic bioethicists, it should be no surprise, is socialized medicine-including socialized biotechnology. Virtually every academic advocates socialized medicine in some form (though often using more palatable euphemisms like "universal healthcare"). Daniel Callahan, head of the Hastings Center, the oldest and most prominent bioethics think-tank, talks of "the obvious need for universal health care." Arthur Caplan says, "It is time to act like a community and guarantee access to health care to every American. Americans can no longer afford to put the public good behind private interest."

Just as academics quibble over different variants of "social justice," they also argue over the details of how a system of socialized medicine would justly apportion biotechnology. They engage in long debates over whether, for example, such a system should just provide free biotech "treatments" or also "enhancements," treatments for physical illness only or also for psychological illness. All agree that healthcare is not something that must be earned, but a "right" to be enforced by the government.

The essence of socialized medicine is that the government is charged with providing "free" medical care, including biotechnology, for all—which means that government forcibly controls (directly or indirectly) all aspects of medicine and biotechnology to achieve this goal.

In the case of biotechnology, if a government under socialized medicine did not simply nationalize the whole enterprise, it would impose crippling controls on the biotech producers—just as all existing systems of socialized medicine do to doctors and pharmaceutical companies. When it determined that biotech treatments cost "too much," it would pass price controls. When it determined that a biotech firm's patent rights caused the government to spend too much of the "people's money," it would break the patent. When it determined that biotech companies were "not doing enough" to help sick people in the Third World, it would force them to give their products away for free.

Such coercive measures always have two common denominators: they treat producers as morally insignificant, sacrificing their freedom in the name of altruism, and they impede the ability of producers to function. As the controls lead to shortages and other disasters, which lead to still more controls -while a public gorging itself on "free" healthcare keeps driving up the government's bills, causing it to crack down on the producers even more—the eventual result is the total enslavement of producers and the destruction of their product.

By perpetrating such an injustice against the producers of biotechnology, socialized medicine would wreck the research and capital-intensive biotech industry, and with it, biotechnological progress. The best people will be shackled, punished, prevented from functioning, and driven out of the field. If and to the extent that the academic bioethicists have their way, instead of a vibrant biotech industry brimming with exciting new innovations, we will see a stagnating industry starved of funding.

But this is only half of the academics' political policy. Just as they seek to control the production of biotechnology in the name of "social justice," they hold that the government should be empowered to regulate and even ban the consumption of biotechnologies if they would not contribute to "social justice"—i.e., if they would contribute to inequality by benefiting the "haves" rather than the "have-nots."

For example, imagine that a rich couple wants to use expensive new technology to engineer their children with improved intellectual capacities. Should they be free to do so? No, explains Erik Parens of the Hastings Center: "The ability to buy not only tools and opportunities to cultivate one's native capacities, but also to buy new or enhanced capacities themselves,
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would make some individuals doubly strong competitors for many of life's goods.. Germline enhancement might widen the already obscene gap between those who have and those who don't."

But if the need of the "have-nots" is the standard, then shouldn't the government forbid all this fancy new research until everyone in America is provided with all of the existing medical technology that the rich are able to afford? George Annas shares this sentiment when he asks, rhetorically: "With 43 million uninsured, should we be trying to introduce these very expensive procedures into medicine?" He adds: "I want to put the burden of proof on scientists to show us why society needs this before society permits them to go ahead and [do] it." Daniel Callahan conurs, advocating a healthcare system "in which further scientific gains are not deployed until earlier ones are fully utilized."

And if we accept this conclusion, doesn't "justice" also demand that Americans, who are all "haves" by world standards, refrain from pursuing biotechnology at all and instead focus our time and energy on developing the Third World, where people are dying in droves every day from such simple problems as the lack of clean drinking water? Exactly, say the growing ranks of academic bioethicists pushing for so-called "global justice"-which calls for an egalitarian leveling, not just of Americans, but of the whole world.

In logic, "social justice" and altruism demand-and the most consistent academic bioethicists advocate-that all the world's producers sacrifice the cures and enhancements of biotechnology until they have first provided for every bum, tribe, and starving dictatorship on earth.

The academic bioethicists' claim to be concerned with promoting biotechnology to relieve suffering and improve human life is a fraud. If they had any such concern, then based only on the historical record of capitalism vs. socialism, they would advocate a policy of laissez-faire with regard to biotechnology. In a free biotech market, America's greatest minds would be free to unlock scientific mysteries, develop revolutionary treatments for an ever-increasing number of conditions, discover ever-more-efficient ways of providing them-all in the pursuit of profit. For the rest of us, that would mean better, more plentiful, cheaper medical treatments. All individuals would benefit in proportion to their personal productivity, enjoying an ever-improving level of medical care, thanks to the innovations of profit-seeking inventors and businessmen.

But the academic bioethicists, along with all of history's consistent advocates of altruism, reject freedom and the prosperity it delivers because it is selfish. Under capitalism, individuals are free to live for their own sake, benefiting in accordance with their production, with the most productive achieving the greatest success. Self-sacrifice does not benefit anyone-nobody benefits when the world's producers are drained by and shackled to the limitless demands of parasites-but altruist intellectuals still refuse to question their code. Psychologically, this is motivated by the emotion Ayn Rand identified as "hatred of the good for being the good"-the desire, not to see all succeed, but to see "sacrifice for the sake of sacrifice," to see the good throttled as an end in itself. Only such a mentality could seek to deny hard-working Americans the right to improve their and their children's lives via biotechnology, because they are already "too" well-off in relation to the rest of the world.

The academic bioethicists have the potential to thwart progress in biotechnology because they advocate consistently what others accept but only practice inconsistently: the morality of altruism. The idea that virtue consists of selfless service to others is America's-and the world's-basic ethical article of faith. It has been the impetus for the massive expansion in the size and scope of government in the last century, including Medicare and the de facto government control of medicine that came with it. Imagine what the "right to biotechnology" would do to that field.

Americans don't really believe in "the right to healthcare" in its full meaning and socialist implications, but they are powerless to fight against these implications because they follow from altruism. Advocates of socialized medicine need only point to the need of some suffering wretch without medical insurance or prescription drug coverage, or some Third World country suffering from the ravages of AIDS, or even to a gap between rich and poor in quality of medical care-and the moral code of altruism paralyzes individuals from making any compelling case against the latest expansion of government controls on medical care. As just the latest example, witness the recent scramble by both parties to expand Medicare to include subsidies for prescription drugs, to the feeble objections of the conservatives, who argued that the plans in question were wrong because they would also pay for the prescription drugs of the well-off elderly.

Up to now, the academics' demands for "social justice" in the distribution of biotechnology has not been nearly as prominent as the doomsayers' prognostications of a "brave new world." This is partly because we currently have a doomsayer sympathizer as president, but mostly because the academics' primary political concern with biotechnologies-socializing them-becomes a major issue only after they come into existence. This will change as scientists actually begin to develop and perfect new biotechnologies. While the beneficent reality of biotechnology may help refute the predictions of the doomsayers and quiet the public's fears, it will be an invitation for altruists to say that the technology should be available to everyone, and for the academic bioethicists to take center stage.

Project the succession of events if a company were to announce that it has developed a drug that could slow the aging process. Can you imagine the instantaneous demands by altruists, by the World Health Organization, by the UN, by the Democrats, for socialization, for mandatory giveaways, for price controls, or for bans because it's not fair that only the rich receive more of "the gift of life"-and the chilling effect that would have not only on the product in question, but on all future
As dangerous as the doomsayers are to the future of biotechnology, the academics have the potential to do more damage, for two reasons. First, while religion is not universally accepted as a source of ethical guidance, altruism is considered synonymous with morality. Observe that in the cultural debates so far, those who have supported cloning and embryonic stem cell research have argued almost solely with altruist-sounding platitudes about "helping people," "relieving suffering," and "humanitarianism"—but no prominent voice has defended the moral rights of the producers. Such terms have paved the way for the academics to argue for socialist and egalitarian policies in the future.

The second reason the academics are a greater threat is that they advocate a total government takeover of all medicine and biotechnology. While a ban on human cloning, for example, would be evil and destructive, there would be a good chance of it being reversed after people in other countries conceive what are, in effect, merely time-separated twins, and Americans realized that they are individuals no less human than anyone else. This has already happened with in vitro fertilization, which was controversial before it was successfully attempted—leading environmentalist doomsayer Jeremy Rifkin predicted that these "test-tube babies" would be psychologically "monstrous"—but is uncontroversial today. Reality refutes doomsayer arguments, which gives hope that any specific ban might be reversed. But a sweeping government takeover is far harder to reverse and far more pervasive in its destruction.

For all of these reasons, it is essential for the producers of biotechnology to reject altruist arguments and assert their moral right to freely pursue their self-interest. Instead, scientists and businessmen are making the deadly mistake of defending the propriety of their products by reference to the altruistic ideas of the academic bioethicists. By funding these bioethicists, giving them prestige and influence, and often repeating their arguments, biotech companies are supporting their own destroyers, in perhaps today's greatest example of what Ayn Rand called "the sanction of the victim."

A small example of this is Craig Venter, founder of Celera Genomics, the company that led the private, commercial effort to map the human genome, in bitter competition with a government-run project. Seeking ethical guidance, Venter hired Arthur Caplan as a consultant; probably as a result, Venter has come out publicly in favor of "universal health insurance," i.e., socialized medicine.

A far larger-scale example of biotech sanction of the victim was committed by Geron Corporation in 1999, when it announced its research with human embryonic stem cells (hES cells). As part of the announcement, it included a statement of approval signed by an Ethics Advisory Board. Among the principles guiding Geron's use of embryonic stem cells was Point 5: "All such research must be done in a context of concern for global justice."

This, given bioethicists' view of justice, is a complete denial of the rights of the producers at Geron. Recall that the term "global justice" means, not merely the sacrifice of the rich to the poor in America, but the sacrifice of America to the rest of the world. If this wasn't evident in the statement itself, it certainly was in the explanatory article the authors published in the Hastings Center Report, the top journal in academic bioethics:

One of the primary justifications of hES research is beneficence based: its therapeutic potential to alleviate human suffering and to promote the health and well-being of human populations. However, to justify a practice on the basis of its benefits makes moral sense only if people in need actually have access to those benefits. Hence the justification gains credibility only when it is wedded to a commitment to justice, rooted in "a recognition of our sociality and mutual vulnerability to disease and death." The EAB considers concerns about social justice in public health to be of overriding importance. Thus in the EAB's judgment, it is morally paramount that research development include attention to the global distribution of and access to these therapeutic interventions.

Two features of Geron's research render this commitment to just access particularly challenging. First, the research is undertaken in the private sector—in the context of market forces, patenting of products, interests of shareholders and investors, and a consideration of profits. These varied interests may compete with—but should not override—a concern for equitable access. Second, the research is highly technological and expensive, as well as under the proprietary rights of a US company. How to ensure adequate access for insured, underinsured, and noninsured patients in the United States, let alone on a global basis, will be an ethically and financially challenging task. The EAB will continue to work with Geron on these matters.

Reconciling the profitability of a company engaged in expensive research with the egalitarian goal of giving their products to the world's savages free of charge is more than "an ethically and financially challenging task"—it is impossible. Obviously, on the premise of the authors, Geron should not be free to profit from the research or even to do it in the first place.

Hence an article written in response to this report by bioethicists George Annas, Sherman Elias, and the pseudo-enthusiast Arthur Caplan in the December 1999 issue of Nature Medicine. Their article described the Geron report as "more like 'ethical cover'...than ethics that can be taken seriously." Citing the report's "final ethical principle," which states that all research on human embryonic stem cells "be done in a context of concern for global justice," the authors comment:
The ethics board seems to recognize what few, if any, Geron stockholders would concede: *If only the rich are likely to benefit from stem cell research, it should not be pursued at all as a matter of social justice.* This principle follows from ideas of respect for embryonic and fetal tissue that permit its instrumental use only to “alleviate human suffering and to promote the health and well-being of human populations,” but obviously begs the question [sic] of whether for-profit corporations can ever have this as a realistic goal or how the company could be forced to adhere to this principle. [Emphasis added.]

They propose the following policy, amounting to a government takeover of embryo research:

A federal oversight panel, independent of the NIH and DHHS, should be created with authority to promulgate all regulations for research involving the use of human embryos, the authority to review and approve (or disapprove) all research projects in the US that use human embryos, as well as all research projects using stem cells and other cell lines derived from human embryos or aborted fetuses.

The doctrines of altruism and "social justice"-in which the lives and minds of the best men are shackled in servitude to the world's losers-would have made impossible the construction of the first mud hut, let alone industrial civilization. Yet academics are offering it, in the name of the latest in ethical theory, as a means of guiding the most advanced technological venture in history.

Whatever the differences between the doomsayers and the academics, they are united on one basic ethical premise: that man is a sacrificial animal. The doomsayers hold that man should not pursue biotechnology because it is an affront to God and his creation, and that man should instead embrace suffering and disease as his earthly duty. The academics hold that man can pursue biotechnology-but only for his needy neighbor or the savage next continent. Both view man as morally insignificant by nature-either a conflicted soul-body mixture corrupted by this world or a determined product of biology and society-and both hold that virtue consists of sacrificing himself to something "higher."

The doomsayers and academics are the modern heirs of the two moral codes that have dominated the West throughout the past two millennia: the supernatural school of self-sacrifice and the social school of self-sacrifice. "For centuries," writes Ayn Rand, "the battle of morality was fought between those who claimed that your life belongs to God and those who claimed that it belongs to your neighbors-between those who preached that the good is self-sacrifice for the sake of ghosts in heaven and those who preached that the good is self-sacrifice for the sake of incompetents on earth. And no one came to say that your life belongs to you and that the good is to live it."

Since the Renaissance, the West has been torn by an internal conflict between its actions and its resulting practical achievements-made possible by the exercise of a rational, individualistic, selfish morality-and its explicitly accepted morality: the morality of self-sacrifice. The West's philosophers defaulted on their responsibility to identify and resolve this contradiction.

The great treason of the philosophers," wrote Ayn Rand,

was that they never stepped out of the Middle Ages: they never challenged the Witch Doctor's code of morality. They were willing to doubt the existence of physical objects, they were willing to doubt the validity of their own senses, they were willing to defy the authority of absolute monarchies, they were willing (occasionally) to proclaim themselves to be skeptics or agnostics or atheists-but they were not willing to doubt the doctrine that man is a sacrificial animal, that he has no right to exist for his own sake, that service to others is the only justification of his existence and that self-sacrifice is his highest moral duty, virtue and value..

The great treason of the philosophers was that they, the thinkers, defaulted on the responsibility of providing a rational society with a code of rational morality. They, whose job it was to discover and define man's moral values, stared at the brilliant torrent of man's released energy and had nothing better to offer for its guidance than the Witch Doctor's morality of human sacrifices-of self-denial, self-abasement, self-immolation-of suffering, guilt and death.

Such a conflict has been able to exist for so long partly because people stopped taking principles seriously, content to leave basic moral ideas carefully submerged below the surface of the pragmatist debates of the moment.

Biotechnology, the latest arena for this conflict, is making the West's internal contradiction unavoidably explicit. Biotechnology is so egocentric-both in origin and in purpose-that it is a punch in the face to history's two dominant schools of morality. It is an affront to the supernatural morality of self-sacrifice, with its rejection of any mystical view of man, any limits on human knowledge, any restrictions on pursuing perfection, any trace of the view that this world and life are unimportant. It is an equal affront to the social morality of self-sacrifice, with individuals guiltlessly improving and extending their own lives, making them even better and longer.
resulting in the widespread fear and controversy about biotechnology that we see today. And tragically, the same
tionalities that brought about the corruption that makes biotechnology so controversial have been called on to resolve the
controversy-and are attempting to resolve it in the direction of the Dark Ages.

That the bioethicists' basic ethical premises lead them to oppose such a profound good as biotechnology is further proof of
Ayn Rand's identification that the morality of self-sacrifice is the "Morality of Death." Her explanation of this identification, in
Galt's Speech, is a prophetic description of the dual-pronged assault from the doomsayers and the academics.

Death is the standard of your values, death is your chosen goal..

Damnation is the start of your morality, destruction is its purpose, means and end. Your code begins by
damning man as evil, then demands that he practice a good which it defines as impossible for him to
practice. It demands, as his first proof of virtue, that he accept his own depravity without proof. It demands
that he start, not with a standard of value, but with a standard of evil, which is himself, by means of which he
is then to define the good: the good is that which he is not.

It does not matter who then becomes the profiteer on his renounced glory and tormented soul, a mystic God
with some incomprehensible design or any passer-by whose rotting sores are held as some inexplicable
claim upon him-it does not matter, the good is not for him to understand, his duty is to crawl through years of
penance, atoning for the guilt of his existence to any stray collector of unintelligible debts, his only concept of
a value is a zero: the good is that which is non-man..

A sacrifice is the surrender of a value. Full sacrifice is full surrender of all values.... If you pursue a course of
action that does not taint your life by any joy, that brings you no value in matter, no value in spirit, no gain, no
profit, no reward-if you achieve this state of total zero, you have achieved the ideal of moral perfection.

You are told that moral perfection is impossible to man-and, by this standard, it is. You cannot achieve it so long as you live, but the value of your life and of your person is gauged by how closely you succeed in
approaching that ideal zero which is death.

This describes exactly the nature of the doomsayers' and academics' response to biotechnology. The doomsayers, as
religionists, attempt to pit man in an impossible conflict between his mind and his body, to intimidate him into accepting his
inherent lack of "wisdom," to instill in him a repugnance against his own capacity to understand and reshape the world, and
thus to sacrifice biotechnology to God's "incomprehensible design." The academics, as altruists, cash in by demanding that
he sacrifice his freedom and his values to anyone and everyone across the globe, to the lowest human common
denominators, "whose rotting sores are held as some inexplicable claim upon him." Both are incompatible with a profound
new advance in life-giving technology.

In addition to the doomsayers and academics, there is one other vocal group in the bioethics debate, a group of biotech
enthusiasts that includes many "libertarians" among its ranks, which often speaks out in favor of biotechnology and attack
the arguments of the doomsayers and the academics. However, these biotech enthusiasts offer no substantive moral
position of their own. They argue that the morality of biotechnology should be left to individual choice because it is
subjective; or that biotechnological progress is "inevitable," so no argument is necessary; or they concede the basic moral
premises of the bioethicists while trying to refute their concrete, practical claims and thus arrive at a different conclusion.
Insofar as they avoid the central moral conflict in this debate, they doom themselves to insignificance.

The only antidote to the Morality of Death is Ayn Rand's morality of rational self-interest-which she appropriately described
as the Morality of Life. Her Objectivist ethics defines the aim of ethics as the individual's life and happiness, and defines the
primary means necessary to achieve it: the unfettered use of his highest spiritual capacity, his reasoning mind, to reshape
his material surroundings for his own benefit.

Those who wish to fight for biotechnology must break the shackles of the morality of self-sacrifice. We must embrace life on
earth and the individual's life on earth. We must proclaim proudly that each of us is an end in himself-that we are entitled to
think, to research, to seek out cures, to sustain and enhance our lives, to improve the genetic makeup of our children-
answering, not to God or to society, but only to our own goals and happiness. Only this viewpoint-only a scientific, this-
worldly, egoistic moral code-can guide us to a moral biotech future.

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