

2006

Biotechnology and the Future of Humanity

Nigel M. de S. Cameron

Follow this and additional works at: <https://scholarship.law.edu/jchlp>

Recommended Citation

Nigel M. Cameron, *Biotechnology and the Future of Humanity*, 22 J. Contemp. Health L. & Pol'y 413 (2006).

Available at: <https://scholarship.law.edu/jchlp/vol22/iss2/7>

This Comment is brought to you for free and open access by CUA Law Scholarship Repository. It has been accepted for inclusion in Journal of Contemporary Health Law & Policy (1985-2015) by an authorized editor of CUA Law Scholarship Repository. For more information, please contact edinger@law.edu.

BIOTECHNOLOGY AND THE FUTURE OF HUMANITY*

*Nigel M. de S. Cameron***

The more intense the controversy, the more important it is to penetrate behind the putative issue of disagreement and explore the unspoken and often unrecognized meta-questions at the root of the debate. That commonplace could hardly be more apt than in the debates over embryonic stem cell research and cloning that have convulsed both the United States and Germany, and echoed around the globe. For behind the specifics of U.S. debate over the funding of embryonic stem cell research, and more fundamental German debate about whether the law should permit deleterious research on human embryos at all, in response to both of which principled compromise policy positions have been adopted, lies the fateful question of the new powers we have taken to ourselves over ourselves, and whether the exercise of these powers is or is not in our true interests as a human family.

Of course, to speak in that way is to beg many questions, most basically the extent to which it may prove possible to set in place a discrimen that will harvest the benefits of these technologies while shielding us from the threats that they plainly pose to the integrity of humankind. But speak that way we must, if we are to grasp the context in which the many particulars of this debate should be framed. The greatest danger lies in our addressing them merely *seriatim*, without a clear awareness of the relation of this or that part to the whole. Because—as the course of the embryonic stem cell research debate has revealed with some eloquence—public debates over science policy tend to be dominated by scientists and the press, in its characteristic combination of liberal political sympathy and the awe due from one elite for another, handles challenges to mainstream scientific opinion as the contemporary equivalent of *lese-majeste*.

Indeed, we should note the meretricious fashion in which the American press has sought to frame this debate as simply a further round in the culture

* This speech was presented on October 4, 2004 at the colloquium on *Ethics, Public Policy and Law: The Stem Cell Debate in the United States and the Federal Republic of Germany* sponsored by The Law, Philosophy & Culture Initiative of The Catholic University of America's Columbus School of Law with The Konrad Adenauer Foundation.

** President, Institute on Biotechnology and the Human Future; Research Professor of Bioethics, Chicago-Kent College of Law; Illinois Institute of Technology.

war over elective abortion—and thereby avoid the fundamental questions at stake. It is true that the pro-life movement, after some initial misgivings, has lent its political support to the campaign to stop human cloning. Indeed, without their engagement there is little prospect here in the United States, where 75% of the world's biotech research and development takes place, of the political containment of biotechnology and the limitless ambitions of its advocates. But the American press has willfully and consistently distorted the nature of this debate, and that is nowhere more clear than in its refusal to report on the global situation. The recent French and Canadian bans on cloning for any purpose have remained unreported in major U.S. media, since they shatter the paradigm that this is a “pro-life” issue. One web-based journalist who did report the Canadian news told me that a week later she wondered if she had misinterpreted the import of the law, since no one else was writing about it. And in a recent debate on Beliefnet with Dartmouth ethicist Ron Green, when I pressed the significance of the Canadian and French laws, he maintained his position by arguing against all the evidence that these cloning bans show the influence of “extreme pro-lifers” in France and Canada. The fact that these jurisdictions permit elective abortion, and that in Canada the pro-life movement actually opposed the legislation, did not dislodge him from this *idée fixe*. The American elite has used the pro-life movement as a convenient means of disposing of ethical challenges to these technologies. This does not augur well for the capacity of our democracy to respond to the biopolicy agenda, and it suggests that nothing may be as significant for the health of this debate as an understanding of the German experience, in which the critique of biotechnology is deep-rooted right across the political-cultural spectrum.

For the fundamental context of biotechnology lies in our understanding of what it means to be human. At the fulcrum of every human culture lies a set of assumptions about human nature—what it means to be a member of the tribe. These assumptions are typically unstated. They are self-evident to members of the group and therefore almost invisible in their common life. What presents to us as a debate about the particulars of this or that technology is in truth the question of the meaning of this technology in light of our assumptions about the meaning of human nature. What seems to be all about technology is in fact all about anthropology. And the anthropological question is raised in two distinct ways.

On the one hand, we confront the question whether there is such a thing as human nature, whether we accept its given-ness and while seeking to cultivate its immense capacities—which is, of course, the story of civilization, including not least its engagement in science, medicine and technology—whether we maintain a determination to treat human nature on its own terms. It is the saddest of ironies that at a time when what we might term the enlightenment codification of human dignity has led to such dramatic achievements in the realm of human rights, the dignity of women, a recognition of the radical evil of racism, a new respect for the handicapped,

and the growth of political freedoms around the globe, distorted notions of the freedom of science and, increasingly, the freedom of markets should threaten us with the reconstruction of human nature—not, as it were, formally, in the manner in which human beings are treated, but materially, in the manner in which they are constituted, by their own alleged freedom and the freedom, it may be, of others.

Alongside the desirability of the reconstruction of human nature lies the other side of the anthropological equation—the question of our confidence in human beings to undertake such a task. It is interesting to note that, in general, those most eager to be open to the remaking of human nature are those with most confidence in the capacity of human beings to undertake it with responsibility and skill. By contrast, those who value and seek to safeguard its given-ness are most suspicious of the human capacity for both technical and moral error.

The stakes could not be higher. It has been said that the cloning of Dolly the sheep in 1996 bifurcates the history of the world. It announces to humankind that we are in line to become not only the creators of our own selves, but, in sad tandem, also its creatures, the products of our own inventive selves, *Homo sapiens* in the hands of *Homo faber*.¹ Thus do we cross the Rubicon.

Cloning stands first in a succession of waves of technological development that, one after another and in combinations we cannot predict, are set to break upon the moral structures of our culture. It is intertwined with the patenting of genetic material that has suddenly made this field hugely attractive to investors and crippled the public good motivation of researchers—and, indeed, the prospect of the patenting of engineered embryos (a right which the biotechnology industry has recently trumpeted). Back of it lies the prospect of “germline” gene interventions—modifications of the germ cells that are inheritable by succeeding generations, as we become able not just to pick but to “design” our babies and their progeny forever. And, back of that, lie developments in cybernetics and nanotechnology that take us beyond biology to its control and replication in the manufacture of devices of intelligence and enhancement, and the integration of the human and the mechanical, already the most exciting research frontier of nanoscale research lies in the nano-bio interface of medicine. While there are serious debates about whether artificial intelligence will in fact be able to replicate and supersede the life of the mind, there is no question that each of these waves of technological advance and corporate opportunity will pose afresh the question at the heart of our culture: what does it mean to be human, and what value do we place in the given-ness of our human nature?

1. “Man the maker,” a term used by anthropologists to focus on our capacity to use tools to make things.

In each case, of course, we are confronted with a cornucopia of possibility—whether for healing or enhancement or, ultimately, control. We may expect that the appeal will be intense, and the attraction of particular applications marketed to us with full force. The policy parameters we agree today will set the tone for all our tomorrows. And that, of course, is the reason that some leaders of the bio-industrial complex are so deeply committed to resisting policy development of any kind. Look at the manner in which the global scientific community has decided to take it upon itself to lobby the United Nations General Assembly. For them, this is round one of struggle that may persist for a generation or more; and every succeeding round will be easier for the side that wins at the outset.

Yet, we have now already begun to take that first decisive step across the line that separates the beings we are from the things we make; thus *Homo faber* prepares to turn his making on himself—and, in a single fateful act, both elevate himself to the role of creator and degrade that same self to the status of a manufacture, something “made by hand.” Simultaneously, we claim the role of God while in its exercise we are reduced to the dust of the earth out of which we were made and to which we choose to return ourselves. And, as we reflect on this act of usurpation, it is fascinating to observe the terms in which even the advocates of these technologies are forced back on the categories of “playing God”—and as in the title of Lee Silver’s manifesto for essentially unbridled biotech, *Remaking Eden*.² Our minds turn less to Frankenstein than to Faust. The ambiguity of the clonal human as both *Homo sapiens* and the creature of *Homo faber* moves us decisively toward what the post humanists call the “singularity”—that state in which the distinction between what in Spielberg’s movie *AI*³ are termed “mecha” and “orga”⁴—human being and manufactured being—is over, and a seamless dress weaves together our humankind and what we have made.

In summary, we should note here a threefold development. In Bioethics I, my term for the discussions of the past generation, the focus has been on whether and when we should *take* life. Abortion and euthanasia form the bookends of this debate, though it has many more subtle components, such as definitions of brain death, transplant protocols, DNR orders, questions about the so-called “persistent vegetative state,” whether withdrawing food and drink is permissible as the withdrawal of “treatment,” and more besides. The great questions of Bioethics I have focused on the taking of life. Its disagreements and lack of resolution stem directly from the unresolved questions of who is alive and who is human, and whether and when human life may be deliberately taken.

2. LEE M. SILVER, *REMAKING EDEN* (Avon Books, Inc. 1997).

3. *Artificial Intelligence: AI* (Warner Brothers 2001).

4. These useful terms are from Spielberg’s movie *Artificial Intelligence: AI*, generally memorable only for its special effects.

In Bioethics 2 we turn from the *taking* of life to the *making* of life, decisions intended to enable us to design a child to order. That may be with current technologies such as certain options made available by *in vitro* fertilization—positively, the selection of desirable gametes; negatively, the use of pre-implantation genetics diagnosis (PGD) to “weed out” the less desirable embryos. But it will find its fulfillment in the far more sophisticated options that will be enabled by the application of our growing knowledge of human genetics to the design of human life.

In Bioethics 3,⁵ we move from *taking* life, through *making* life, to what I have somewhat crudely termed the *faking* of life: the capacity of developments in the fields of nanotechnology and cybernetics to manipulate, enhance, and finally perhaps supplant biological human nature.

Let me make four substantive observations on the nature and course of this great debate: on the abject failure of “bioethics;” the problematics of Christian participation in public debate; the emergence of what could be a whole new politics out of the biopolicy agenda; and, finally, the global context.

I. THE FAILURE OF “BIOETHICS”

It is hard to avoid the conclusion that bioethics has failed abjectly as the pretended arbiter of new biotechnologies in an uncertain culture that nonetheless clings to its religious-moral identity and when confronted with their fresh possibilities seeks arbitration.⁶ While its practitioners may have had many motives and concerns, the function of bioethics in the past thirty years has been to commend new technologies to a suspicious public, and aid their adoption. This has been accomplished by a mix of straightforward advocacy, in which “bioethicists” are hired as consultants and spokespersons, and much more subtle activities with more profound consequences. The “ethics” in bioethics has been generally reduced to a combination of hand-wringing, safety, and focus on due process questions for individuals confronted with whatever the new technology may be.

The *reductio ad absurdum* of American bioethics is found in the National Bioethics Advisory Commission’s much-heralded report on cloning,

5. I gladly acknowledge the contribution of my friend and colleague Christopher Hook, MD, who persuaded me that these developments qualified as a third division within the bioethics agenda and proposed “Bioethics 3” to cover them. They share of course the same goals as Bioethics 2. His essay in this book surveys these questions and their implications. C. Christopher Hook, *Cybernetics and Nanotechnology*, in CUTTING-EDGE BIOETHICS: A CHRISTIAN EXPLORATION OF TECHNOLOGIES AND TRENDS 52 (John F. Kilner et al. eds., 2002).

6. This has been well argued, for example, in Tina Stevens’ study *Bioethics in America*.

produced in 1997 in response to a presidential demand for a report within 90 days.⁷ While NBAC worked hard and took an unusual tack in spending much of its time engaging with religious approaches to cloning (which, of course, were conveniently to be found on both sides of the issue), its final product, after the statutory hand-wringing, was a recommendation that there be a brief moratorium on cloning for the purpose of making babies on safety grounds, as good an example as we are likely to find of Horace's famous saying about the mountains being in labor and bringing forth a ridiculous mouse.⁸

By contrast, the successor President's Council on Bioethics has essentially eschewed the "bioethics community" in favor of a reconstituted pre-"bioethics" interdisciplinary discussion, and as a result its output, while less monochrome than its detractors have suggested, has engaged the fundamental question on human nature and biotechnology, especially in its staff reports. Yet, there is something troubling about the phenomenon of bioethics by expert committee, evident in many jurisdictions and also in the UNESCO International Bioethics Committee process, as if bioethics were an "expert" issue, like the law of the sea. It is on a par with summoning an "expert" committee to decide whether to go to war. Granted, that decision should not be for the generals. But should it be for whatever gathering of academics and policy wonks a government might appoint to make such choices? Rather, we need to bring the biopolicy agenda to center-stage in the political process and acknowledge that—as one early bioethics writer put it—bioethics is "everybody's ethics."

II. THE PROBLEMATIC OF A CHRISTIAN VOICE IN PUBLIC BIOETHICS

As western culture moves ever deeper into the period characterized a generation ago by historian Christopher Dawson as "secularized Christendom," the emerging inter-disciplinary field that since its naming in 1970 has gone by the name "bioethics" can be understood only as a microcosm of the whole. The effacing of religious discourse from the public square, especially in the United States, has raised profound difficulties for the development of a bioethics rooted in the Christian vision of human nature. The contrast with Europe is of course striking, in that while there are far lower levels of religious participation in all the major European countries, there remains in most of them a higher level of tolerance for religious voices in the public square. If religion is removed from the

7. National Bioethics Advisory Commission, *Cloning Human Beings Report and Recommendations of the National Bioethics Advisory Commission* (1997), available at <http://www.georgetown.edu/research/nrcbl/nbac/pubs/cloning1/cloning.pdf>.

8. Horace, *De Arte Poetica* line 139.

metaphor of public affairs, it is only in translation that the Christian worldview retains any opportunity to shape the public institutions of the culture. The predicament of Christianity in bioethics lies precisely here.

The vision of human beings defined by their creation in the image of God sets the Christian agenda, to be addressed within public and professional contexts in translation. Yet, the exercise of translation has itself led to the “marginalization” of religion. As the ebb-tide of the sea of faith runs fast, it has become standard practice to translate Christian moral argument into secular language for public purposes. As a communication strategy in a changing culture, this would be estimable were it to succeed. But it has failed. The power of the secular conversation has to a striking extent shaped the thinking of religious participants and led many of them, as it were, to go native. The Christian voice has been entirely marginalized in the mainstream of bioethics, and partly as a consequence outside the issue of abortion, there is a general dearth of interest in the biopolitics agenda within the various conservative Christian communities. Just as there is no major critique of the secular assumptions and utilitarian method of the bioethics mainstream, our Christian institutions—Catholic and evangelical—have failed to develop an alternative institutional bioethics community that can speak into the public square.

Indeed, it has been left to Leon Kass, longtime critic of potential abuses of genetic technology and now chairman of the President’s Council on Bioethics, to emerge as the leading voice in articulating such concerns. Noting that advances in genetics “cannot be treated in isolation” but must be correlated with “other advances in reproductive and developmental biology, in neurobiology, and in the genetics of behavior—indeed, with all the techniques now and soon to be marshaled to intervene ever more directly and precisely into the bodies and minds of human beings.”⁹ While scientists like to portray such questioning as arising from “scientific ignorance or else to outmoded moral and religious notions,” a theme that has been depressingly dominant in the course of the controversies we have outlined, Kass goes to the heart of the question. The very success of our technology has given fresh impetus to a materialistic reduction of human nature which goes far beyond the rejection of this or that religious conviction or moral boundary. “Hence our peculiar moral crisis: we adhere more and more to a view of human life that gives us enormous power and that, *at the same time*, denies every possibility of nonarbitrary standards for guiding the use of this power.” In consequence, “we are doomed to become its creatures if not its slaves.”¹⁰

9. Leon R. Kass, *The Moral Meaning of Genetic Technology*, COMMENTARY, Sept. 1999, at 34, 35.

10. *Id.* at 38.

Kass here alludes to the famous essay of C. S. Lewis, which he has earlier quoted. In “The Abolition of Man,”¹¹ an occasional piece first published as far back as 1943, Lewis – English literary scholar, novelist, and lay theologian—addresses from afar the coming challenges of human genetics. Lewis’ essay opens with a potent quotation from the English Puritan John Bunyan’s *Pilgrim’s Progress*: “It came burning hot into my mind, whatever he said and however he flattered, when he got me home to his house, he would sell me for a slave.”¹² That, in embryo, is Lewis’ percipient response to the prospect of the genetic revolution and what lies beyond.

His argument opens with a consideration of the fact that all technology, which is said to extend the power of the human race, is in fact a means of extending the power of “some men over other men.” He instances the radio and the airplane as typical products of technology which like all other consumer items can be bought by some, not afforded by others, and could be withheld by some from others who have the resources to buy. Writing after four years of total war in Europe, Lewis is peculiarly aware of the capacities of these technologies to be used to subject some to the power of others, whether in dropping bombs or broadcasting propaganda. But his third example, the bridge to the potentials of biotechnology, lies in contraception. Here some special features attach to the more general problems of use and abuse, since “there is a paradoxical, negative sense in which all possible future generations are the patients or subjects of a power wielded by those already alive.” This is true at two levels. “By contraception simply, they are denied existence; by contraception used as a means of selective breeding, they are, without their concurring voice, made to be what one generation, for its own reasons, may choose to prefer.”¹³ In light of the pervasive influence of eugenic thinking and practice, in the United States and the United Kingdom as well as Germany, in which enforced sterilization was widely employed for selective breeding purposes, Lewis is building his argument on the technology of the early 20th century even as he anticipates that of the 21st. As a result, he continues, “From this point of view, what we call Man’s power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument.”¹⁴ He hastens to add that while it can be easily said that “men have hitherto used badly, and against their fellows, the powers that science has given them,” that is not his point. He is

11. C.S. Lewis, *The Abolition of Man*, in *ON MORAL MEDICINE: THEOLOGICAL PERSPECTIVES IN MEDICAL ETHICS* 270 (Stephen E. Lammers & Allen Verhey eds., 2d ed. 1998). *The Abolition of Man* was first published in 1943 as part of collection of three essays, under the same overall title, directed specifically at the improvement of teaching in English high schools.

12. JOHN BUNYAN, *THE PILGRIM’S PROGRESS* 88 (Oxford Univ. Press 1932) (1678).

13. Lewis, *supra* note 11 at 270.

14. *Id.*

not addressing “particular corruptions and abuses which an increase of moral virtue would cure,” but rather “what the thing called ‘Man’s power over Nature’ must always and essentially be.”¹⁵ For “all long-term exercises of power, especially in breeding, must mean the power of earlier generations over later ones.”¹⁶

What Lewis is here drawing attention to is, at it were, the genetic equivalent of what in another field is termed inter-generational economics. In the nature of the case, the genetic accounting is of a yet higher level of significance than economic relationships run through time, although the principle is the same: the impact of one generation’s decisions on subsequent generations. So Lewis states:

We must picture the race extended through time from the date of its emergence to that of its extinction. Each generation exercises power over its successors: and each, in so far as it modifies the environment bequeathed to it and rebels against tradition, resists and limits the power of its predecessors. There can be no increase in power on Man’s side. Each new power won *by* man is a power *over* man as well. Each advance leaves him weaker as well as stronger. In every victory, besides the general who triumphs, he is a prisoner who follows the triumphal car.... *Human* nature will be the last part of Nature to surrender to Man. The battle will then be won. We shall have ‘taken the thread of life out of the hand of Clotho’ and be henceforth free to make our species whatever we wish it to be. The battle will indeed be won. But who, precisely, will have won it?¹⁷

Because “the power of Man to make himself what he pleases means, as we have seen, the power of some men to make other men what *they* please.... Man’s final conquest has proved to be the abolition of Man.”¹⁸ While much of Lewis’ analysis is directed at the possibility of germline (inheritable) genetic interventions, his twofold thesis is of wider application: first, he sets out the fundamental problematic of biotechnology and its affiliates as a vast challenge that must be addressed; and, second, he frames its significance precisely in the context of anthropology. While his argument uses public language, his starting-point is the Christian understanding of what it means to be human, an understanding built deep into the western cultural tradition.

15. *Id.*

16. *Id.*

17. *Id.* at 271.

18. *Id.* at 271-72.

III. THE NEW BIOPOLITICS

In his famous jeremiad, “Why the Future Doesn’t Need Us,”¹⁹ Bill Joy, one of the technology geniuses of his generation who co-founded of Sun Microsystems, claims that genetics, robotics, and nanotechnology are the three great threats to the human race in the 21st century. Through some mixture of accident and intent they are likely to destroy the human species, or supplant it, through some biological or mechanical meltdown or through the triumph of machine intelligence. One does not need to buy the whole thesis to acclaim his comprehensive framing of the issues.

As the cloning debate has already shown, the questions raised by biotechnology are not the same kind of issues as have traditionally divided our politics. The very fact that opposition to cloning has come from both sides of the pro-life and pro-choice divide illustrates this forcefully. “Conservatives” and “progressives” share a respect for human nature and a distrust of manipulative interventions that will enable certain men and women to re-shape others. This pits political progressives against the mainstream “liberals” they thought were their friends—and thereby, ironically, to let big biotech business do what it chooses. And on the conservative side, it pits those who treasure the dignity of life against both libertarians and others who tend uncritically to favor corporate interests. While the making of common cause on the bio-agenda on the part of those divided by abortion and broader political-cultural interests is more dramatic here in the U.S. than in Germany, the need to move from *ad hoc* collaboration to the development of common ideas and a systematic agenda for common action is reflected in both nations. Here in the U.S., half a dozen issues have been identified as areas for close co-operation: cloning, germline interventions, genetic discrimination, gene patent reform, reproductive technology regulation, and nanotechnology/cybernetics with their capacity for human enhancement.

It is hard to predict how this newfound alliance between those divided by their general political philosophy, and their view on issues like abortion, will develop. What is clear is that questions of biopolicy do not fit neatly into our traditional politics, and they therefore present us with special political challenge. This combination of pro-life and pro-choice forces could prove a novel and potent political force as the issues of biopolicy rise steadily up the policy agenda. If it is truly the case that they represent the major questions of domestic policy to be confronted in the 21st century, their final impact on our politics is hard to estimate.

19. Bill Joy, *Why the Future Doesn't Need Us*, WIRED, Apr. 2000, available at <http://www.wired.com/wired/archive/8.04/joy.html>.

IV. THE GLOBAL CONTEXT

As we meet this week two crucial sets of conversations are in process that could have profound effects on the future of biopolicy around the globe, and therefore of the human race. In Paris, the UNESCO International Bioethics Committee is working to complete its “universal instrument on bioethics” in time for approval at the UNESCO general conference in the fall of 2005. This has been in process for more than a decade and operates at several removes from political accountability and public awareness. In parallel, the U.N. General Assembly, through its Sixth Committee (the legal committee) has been addressing what was originally a German-French proposal for a global convention to prohibit “reproductive” cloning. Since this would implicitly permit the mass cloning of human embryos for research purposes, and at the same time through the perfecting of cloning technology and the availability of large numbers of embryos enhance the chances of the birth of clonal babies, many nations have gathered in opposition to such an approach. Under domestic pressure, the German government has withdrawn from active advocacy of its original proposal, although it cast a crucial vote in 2003 for a procedural delay. Belgium has taken over leadership of the position, with around 20 nations co-sponsoring versus nearly 60 co-sponsoring a Costa Rican resolution that would seek to ban all human cloning for whatever purpose.

There is little doubt that the two most potent forces in the world that seek the containment of biotechnology lie in Germany and the United States. Specifically, they lie in the German conscience, with its sophisticated and multi-party commonalities in the area of biopolicy; and, in the U.S., in the potent influence of the churches, evangelical and Catholic, focused chiefly in the pro-life agenda and yet broadening into a wider recognition of the final significance of biotechnology for human nature. However, events are played out at UNESCO and the UNGA, there lie within the communities of conscience in our two nations the power to shape global biopolicy. Since the alternative is the essentially unregulated development of whatever technology the market will bear—each stage of which would of course be scrutinized, and the finally approved, by the bioethics community—the need is urgent for persons of conscience to develop a common discrimen as the basis for global biopolicy. We must head off a new eugenics, embrace prohibitions on the commodification of the human body and germline interventions as well as all notions of enhancement by whatever means (bio, nano, cybernetics); and thereby encourage the genuinely therapeutic application of these technologies. If such a lead does not come from Germany and the United States, it is hard to imagine an alternative.