

TechnoProgressive Biopolitics and Human Enhancement

James Hughes Ph.D.
Trinity College
Williams 229B, 300 Summit St., Hartford, CT 06279-2106
james.hughes@trincoll.edu

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Abstract

A principal challenge facing the progressive bioethics project is the crafting a consistent message on biopolitical issues that divide progressives. The regulation of enhancement technologies is one of the issues central to this emerging biopolitics, pitting progressive defenders of enhancement, "technoprogessives," against progressive critics. This essay will argue that technoprogessive biopolitics express the consistent application of the core progressive values of the Enlightenment: the right of individuals to control their own bodies, brains and reproduction according to their own conscience, under democratic states that work for the public good. Insofar as left bioconservatives want to ensure the safety of therapies and their equitable distribution, these concerns can be addressed by thorough and independent regulation and a universal health care system, and a progressive bioethics of enhancement can unite both enthusiasts and skeptics. Insofar as bioconservative concerns are motivated by deeper hostility to the Enlightenment project however, by assertion of pre-modern reverence for human uniqueness for instance, then a common program is unlikely. After briefly reviewing the political history and contemporary landscape of biopolitical debates about enhancement, the essay outlines three meta-policy contexts that will impact future biopolicy: the pressure to establish a universal, cost-effective health insurance system, the aging of industrial societies, and globalization. Technoprogessive appeals are outlined that will can appeal to key constituencies, and build a majority coalition in support of progressive change. Finally, some guiding principles for a technoprogessive approach to biopolicy are offered.

Introduction: Enhancement, Biopolitics and Technoprogessivism

What is progressive politics?

Progressive politics are rooted in the history of the European Enlightenment. They combine a faith in the possibility of human progress with commitment to values of individual freedom, social equality, solidarity, democratic governance and the supremacy of reason over dogma and tradition. Progressive politics are rooted in the idea of individual citizens governing their own lives, and, where necessary, enacting accountable government through discussion to pursue the common good.

Reaction to the advance of the Enlightenment project has occurred on many fronts, from clerics objecting to challenges to their authority, to elites defending their privilege. Reaction has also come from within the Enlightenment, from those who believed one aspect or the other of the Enlightenment, such as individual liberty, the growth of democratic state or the triumph of reason, threatened other more important values. Our contemporary biopolitics around enhancement medicine, itself a direct result of the Enlightenment, is one of the many forms in which this struggle over the Enlightenment project and progressive political values has manifested. The project of progressive bioethics is to pursue Enlightenment values in health care and biopolicy, and defend them against both external and internal critics.

These guiding Enlightenment principles are clear in the Center for American Progress' Bioethics project's (2006) four core values:

Human dignity: Promote the ability of individuals to achieve a sense of their unique worth and pursue their vision of the good life.

Critical optimism: Support a science that improves our lives, frees our imagination, and is responsive to our human values.

Equity: Ensure equal access to the benefits of modern society, including health care and medical technology.

Social justice: Support social and economic policies that respect and protect the lives and health of all people.

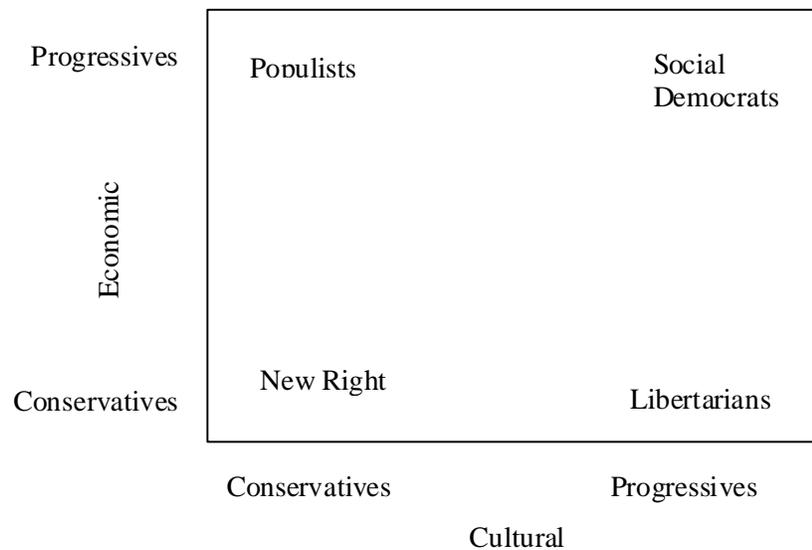
In other words, liberty and solidarity ("human dignity"), reason ("critical optimism"), and equality ("equity" and "social justice").

Jonathan Haidt's (2007) work on the evolutionary psychological origins of moral and political values provides another frame in which to understand the conflict of Enlightenment values with its critics. Haidt argues that progressives ("liberals" in his work) are principally motivated by two basic moral intuitions: the desire for justice and the desire to help others and prevent harm. Conservatives however are motivated by three additional moral intuitions, respect for authority, ingroup loyalty, and ideas of spiritual pollution and purity. Rejecting the relevance of these latter three values, progressives assert instead the importance of self-determination, universalism and reason. If Haidt is correct, while progressives are not free from innate moral intuitions, they have focused on several core values consistent with Enlightenment thought, to the exclusion of moral intuitions consistent with pre-Enlightenment ethics.

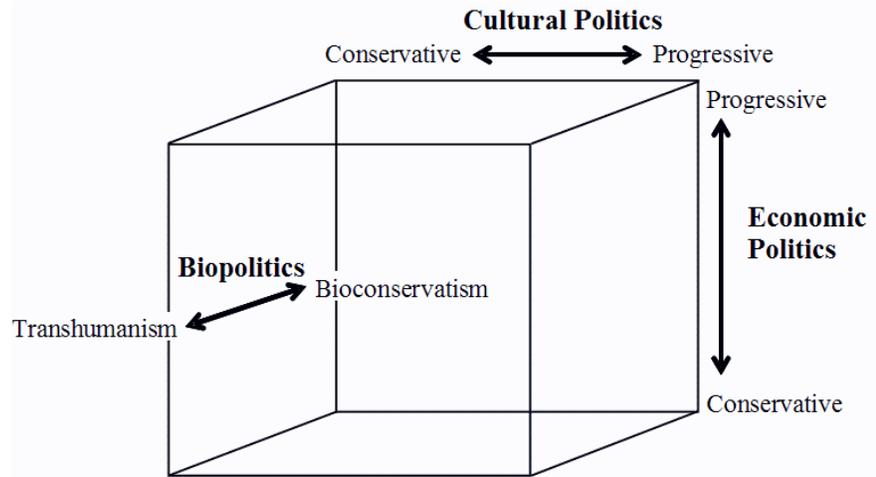
Another way to understand the topology of values is to observe how they shape political movements and parties. Empirically, political movements in the industrialized world in the 20th

century have been defined by two broad axes, economic politics and cultural politics. Economic conservatives are generally opposed to the social welfare state, trade unions, taxation, business regulation and economic redistribution. Economic progressives generally favor these measures as means to ensure fairness and the public good (i.e. moral impulses toward justice and helping others). Cultural conservatives are generally nationalists, ethnic chauvinists, religious conservatives, and oppose women's equality, sexual freedom and civil liberties (i.e. moral impulses toward ingroup solidarity, authority and spiritual purity, over individual liberty and universalism). Cultural progressives, on the other hand, are more secular and cosmopolitan, and support civil liberties and minority rights. This allows us to parse movements and parties into one corner or another of a two dimensional terrain, or on points in between, as in Figure One below.

Figure 1: The Political Axes of 20th Century Politics



The emergence of biotechnological controversies, however, gives rise to a new axis, biopolitics, not entirely orthogonal to the previous dimensions but certainly distinct and independent of them. Allies in one or two dimensions may find themselves opposed on biopolitical issues, as outlined in Figure 2 below.

Figure 2: The Political Axes of 21st Century Politics

Biopolitics are defined by advocacy for or rejection of the biotechnologies such as enhancement medicine, with "transhumanists" (Bostrom, 2005), those who believe that humans should be able to make consensual use of biotechnology to pursue life, happiness, ability and progress, at the progressive end of the spectrum, and "bioconservatives" at the other. Right-wing bioconservatives are generally motivated by pre-Enlightenment values of religious authority, ingroup solidarity and fear of spiritual pollution, while left bioconservatives are (at least putatively) motivated by concerns about equality, liberty and the public good.

The polarization between the transhumanist and bioconservative positions within biopolitics are manifest in a variety of different contexts:

Who is a citizen with a right to life? The debate over who is owed the rights of citizenship, such as the right to life, is central to biopolitical debates over abortion, stem cells, great apes, brain death, and the creation of human-animal chimeras. While biopolitical progressives assert that all intelligent "persons" are deserving of rights, whether human or not, bioconservatives insist that "humanness" is the basis of citizenship and rights.

Control of Reproduction: Bioconservatives are critical of efforts to control reproduction, from religious objections to contraception, abortion and fertility treatments, to unease over genetic testing, germline gene therapies, and cloning. Biopolitical progressives defend the use of reproductive technologies on grounds of bodily autonomy and reproductive rights.

Fixing Disabilities and "Human Enhancement": Bioconservatives are anxious that efforts to reduce the incidence of disability in society – such as through prenatal screening, prosthetics and therapies - will have bad consequences for children, the disabled and society. They also are anxious that technologies that enhance abilities above the norm will degrade social equality and violate sacred values. Biopolitical progressives defend both efforts to reduce the incidence of disability and to enable consensual use of enhancement technologies.

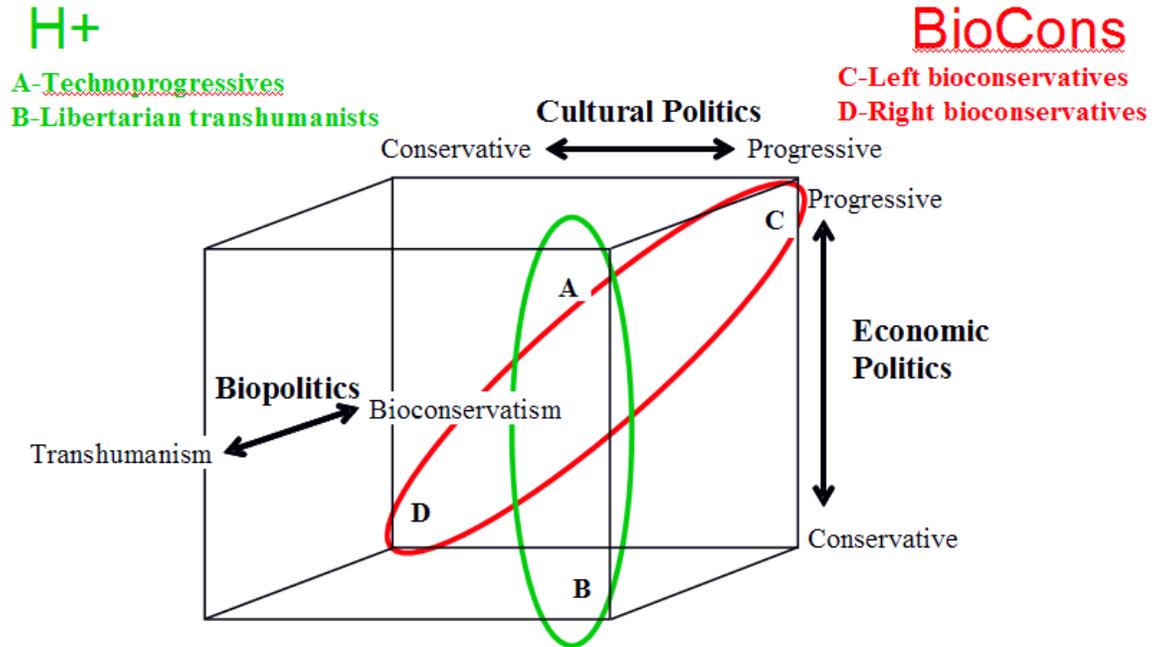
Extending Life: Bioconservatives generally defend a "natural" limit to human longevity, and reject radically extended life through anti-aging drugs and therapies. Biopolitical progressives defend radical prolongevity.

Control of the Brain: Bioconservatives decry the effects neurotechnologies may have on virtue, equality, and autonomy. Biopolitical progressives generally defend the right of individuals to use neurotechnologies, such as psychopharmaceuticals and brain chips, to achieve greater happiness and ability.

As these biopolitical debates become increasingly relevant to daily life, they are being engaged by increasingly broad segments of the public, and biopolitical alliances and ideologies are forming around them.

Using this framework for biopolitics, I want to outline a history of the ideas in the upper front right corner of the frame, at the nexus of the progressive politics of culture, economics and biopolitics, the "technoprogressive" point of view (A). The other principal grouping on the transhumanist side are the libertarian transhumanists (B). I will also discuss the two principal groupings of bioconservatives, those who come from the political Left (C) and those from the cultural and economic Right (D).

Figure 3: Current Coalitions in U.S. Biopolitics



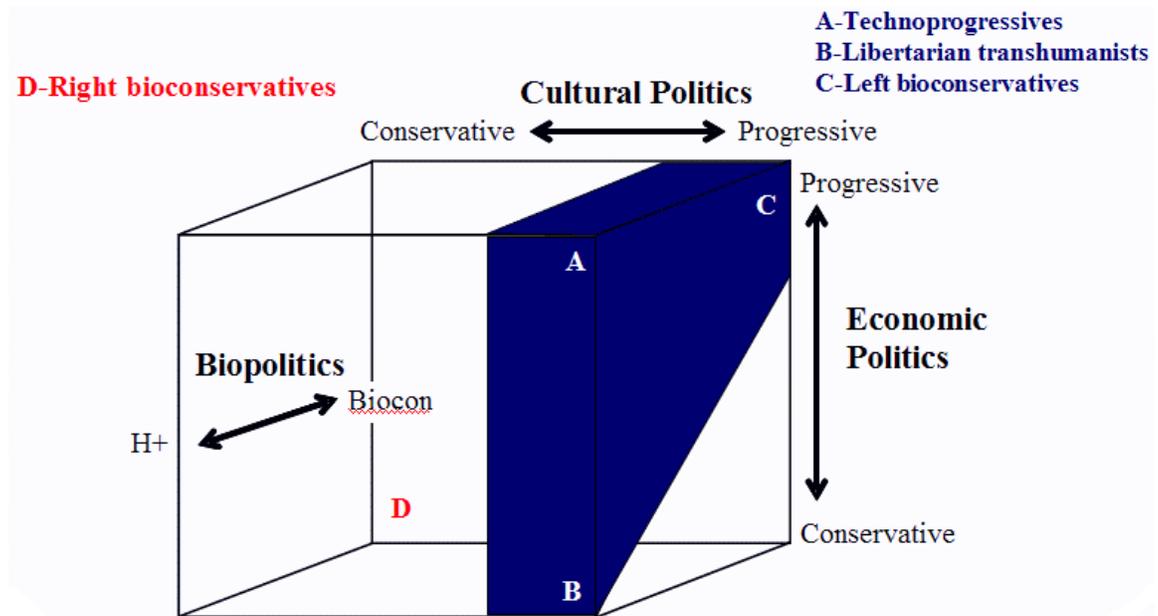
The term *technoprogressive* is relatively new, but has been growing in use among progressives who also support the consensual use of safe enhancement technologies, especially those associated with the Technoliberation list and website. One prominent exponent of the term "technoprogressive" is Dale Carrico, a lecturer at the University of California at Berkeley. In Dale Carrico's (2006) formulation technoprogressives

...assume that technoscientific developments should be and can be democratizing, sustainable, and emancipatory so long as they are regulated by legitimate democratic and accountable authorities to ensure that their costs, risks and benefits are all fairly shared by the actual stakeholders to those developments. Technoprogressive stances variously support such technoscientific development in general, and tend to take up strong positions of support for informed, nondressed consensual human practices of genetic, prosthetic, and cognitive modification in particular.

While Carrico emphatically does not consider himself a transhumanist, many others who use the term do, and in that usage "technoprogressive" overlaps the "democratic transhumanism" I articulated in my 2004 book *Citizen Cyborg*. As with previous progressive debates about the bourgeois deviationism and the subcultural irrelevance of communitarianism, sexual libertinism and countercultural affectation, technoprogressives are divided about identification with the transhumanist movement. Differences also relate to the biopolitical model above, as purists like Carrico reject the idea of a relatively autonomous biopolitical axis and see no rationale for technoprogressives to tactically ally with libertarians or left bioconservatives. For those who identify as left-wing transhumanists, on the other hand, there are strategic possibilities for technoprogressives to ally with both libertarians and left bioconservatives around specific issues. In both Carrico's and my own usages however, technoprogressivism is the consistent application of progressive values to technology and enhancement issues. Survey research shows that progressives outnumber libertarians among self-identified transhumanists by 2-to-1 (Hughes, 2005), which supports the contention that support for human enhancement is as consistent with the egalitarian strain of the Enlightenment tradition as with its purely liberal strain.

Using these biopolitical categories we can see the challenges before a progressive bioethics coalition-building project. Although the libertarian, technoprogressive and Left biocons all agree on Culture War issues such as basic abortion rights, they are divided on biopolitical issues and economic issues.

Figure 4: The Challenge of a Progressive Bioethics Coalition



In Section 1 I sketch in the technoprogressive thread running through progressive politics from their Enlightenment origins to the emergence of bioethics and biopolitics. I argue that bioethics from the 1960s to the 1990s was proto-biopolitics, collegial intellectual discussion of biopolitical issues which, with the exception of abortion, were not engaged by the public until recently. One consequence of the supersession of bioethics by biopolitics has been the rancorous

polarization of bioethicists, and the necessity for the articulation of a distinct (techno)progressive bioethics. I then discuss some of the prominent organizations and personalities prominent in the current American biopolitical landscape, situating them in the framework of Figure 3.

In Section 2 I outline the three most relevant meta-policy contexts for technoprogressive policy on enhancement medicine: the need to establish a basic guarantee to universal, cost-effective health care, the aging of the industrial societies, and globalization.

In Section 3 I discuss some of the potential political constituencies who could be mobilized around a technoprogressive politics promising universal access to safe enhancement technologies.

In Section 4 I discuss technoprogressive approaches to the funding, regulating and provision of enhancement technologies: their selective inclusion in a basic health plan, rational drug policy reform, targeting of federal investments in basic biomedical research, and restricting intellectual property overreach.

Section 1. The Technoprogressive Thread and the New Biopolitics

Liberals and radicals from the 17th century through World War Two were generally convinced that the progress of science and reason would free humanity from the pains and limitations that conservatives believed natural and desirable. This enthusiasm led them to champion scientific medicine, public health, and eventually universal healthcare. It also led them to anticipate the radical enhancement of the human body and brain, and the complete defeat of disease and death.

Francis Bacon's *Novum Organum* (1620), one of the first Enlightenment manifestoes, advocated "effecting all things possible" using science to improve the living condition of human beings. In his *New Atlantis*, medicine is used not only to eliminate disease but also to increase strength, relieve pain, retard aging, and prolong life. This enthusiasm for progressive rational mastery of the body can also be found throughout the writings of the Enlightenment *philosophes*.

In 1665 Robert Hooke proposed artificial organs, implants to enhance sight and hearing, and machines to enhance memory.

By the addition of such artificial Instruments and methods, there may be, in some manner, a reparation made for the mischiefs, and imperfection, mankind has drawn upon itself.

Diderot waxed eloquently that future science would be able reanimate the dead, take a man's brain apart and put it back together, create human-animal chimerae and intelligent machines, and that we might evolve into posthuman forms (Hughes, 2007). Leibnitz (Bury, 1980) observed that "in the course of time the human race may reach a greater perfection than we can imagine at present." Voltaire speculated about extending the human lifespan through medical science. Writing to Joseph Priestley in 1780, Benjamin Franklin predicted that:

In a thousand years...all diseases may by sure means be prevented or cured, not excepting even that of old age, and our lives lengthened at pleasure even beyond the antediluvian standard.

In 1793 the physician, scientist and Enlightenment philosopher Thomas Beddoes wrote of the eventual conquest of tuberculosis that

...however remote medicine may at present be from such perfection...the same power will be acquired over living, as is at present exercised over some inanimate bodies, and that not only the cure and prevention of diseases, but the art of protracting the fairest season of life and rendering health more vigorous will one day half realize half the dream of Alchemy.

Also in 1793 the British anarchist philosopher William Godwin wrote in his *Enquiry Concerning Political Justice* that mankind would not only throw off governments and churches in the future, but that there would also be no disease, ill health or aging. Godwin asked

If the power of intellect can be established over all other matter, are we not inevitably led to ask, why not over the matter of our own bodies?...In a word, why may not man be one day immortal?

In the aftermath of the French Revolution, Condorcet (1795) imagined that reasons would eventually defeat not only slavery, tyranny and patriarchy, but also death and the need to labor:

Nature has set no term to the perfection of human faculties; the perfectibility of man is truly indefinite; and the progress of this perfectibility, from now onwards independent of any power that might wish to halt it, has no other limit than the duration of the globe upon which nature has cast us.

In the nineteenth and early twentieth century many socialists believed that radical social reform would also liberate science and the body. The 1923 essay by Marxist and scientist J.B.S. Haldane, "Daedalus or Science and the Future," predicted the adoption of human genetic enhancement and "ectogenesis" (artificial wombs), and argued that medical progress is always a challenge to orthodoxies and traditions of their day. For Haldane biotechnologists were revolutionary Prometheans.

One of the earliest proposals for a brain prosthesis was broached by Marxist J. D. Bernal in his seminal 1929 essay *The World, the Flesh & the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul*. For Bernal evolution into a cyborgian posthuman diversity was a natural corollary of radical social progress.

...this final state would be so fluid and so liable to improve, and ... there would be no reason whatever why all people should transform in the same way...to predict even the shapes that men would adopt if they would make of themselves a harmony of form and sensation must be beyond imagination...

Eugenics, the Bomb and the Ascendance of the Luddite Left

Enthusiasm for public health and bio-utopian possibility also led some Progressives and socialists to endorse eugenic ideas and coercive reproductive policies, such as involuntary sterilization, with disastrous consequences. After World War Two reaction against the horrors of fascism tarred any consideration of a genetic approach to public health for progressives, and became the first of many issues to make progressives more skeptical about technology.

As progressives mobilized in the 1960s against nuclear weapons, the military-industrial complex, ecological destruction and consumer culture, the romantic, pastoralist reaction against modernity became increasingly influential. The New Left inveighed against "the machine" and "technological rationality," and the counter-culture attacked positivism and lauded pre-industrial ways of life. Deconstructionists and post-modernists cast doubt on the Enlightenment's "master narratives" of political and scientific progress. Deep ecologists challenged the basic humanist

presumption of Enlightenment thought – that humanity gives meaning and purpose to the world – and called for a return to ecological natural law. Critics of the iatrogenic effects of physician patriarchy, the medical-industrial complex and "Western medicine" cast doubt on the progressive promise of universal health care access, or of any benefits to be gained from biotechnologies. After the Sixties, suspicion became the default progressive reaction to new biotechnologies, especially any technology having to do with genetics.

From Bioethics to Biopolitics

It was in this context that bioethics first emerged. Some of the first issues that bioethicists addressed questioned the use and direction of biotechnologies, establishing the rights of subjects in medical research and of patients to refuse medical interventions, and the dangers of *in vitro* fertilization, cloning, and genetic engineering. Influenced by the anti-technology orientation of their generally progressive milieu, the bioethicists generally saw their role as critics of the technoscientific enterprise. However, the technoprogressive Enlightenment tradition began to re-emerge among bioethicists as early as the 1970s, as in the (uneven) work of Episcopalian theologian Joseph Fletcher (1974) who argued that humans have a right and obligation to control their own genetics. For some Christian bioconservatives the polarization between Joseph Fletcher and fellow cleric-bioethicist Paul Ramsey over death with dignity, abortion, cloning and genetic engineering marks the beginning of modern biopolitics.

Mass biopolitics in the United States clearly began with the *Roe v. Wade* decision, which mobilized a large army of Christian activists around a bioethical debate, the personhood of the embryo and fetus. The abortion issue combined with animal rights and brain death in bioethics circles to crystallize points of view on the relevance of personhood and humanness to rights-bearing, an issue at the core of the emerging biopolitics.

Jeremy Rifkin was another explicit harbinger of the supercession of bioethics by biopolitics. In the late 1970s Rifkin, a former socialist activist, formed the Foundation on Economic Trends to oppose bio-capitalism and any efforts at “the improvement of existing organisms and the design of wholly new ones with the intent of perfecting their performance.” Rifkin quickly discovered the importance of alliances with the religious Right built on their shared critiques of biotech hubris. Rifkin built alliances between Catholic conservatives and bioconservative feminists in his campaign against surrogate motherhood, and between anti-biotech Greens and the Christian Right around opposition to recombinant genetic engineering and DNA patenting. In 2001, Rifkin convinced prominent progressives to join with conservatives to call for a ban on cloning of embryonic stem cells.

Rifkin is quite clear about the importance of his odd coalitions to the coming “fusion biopolitics.” In a 2001 article titled “Odd Coupling of Political Bedfellows Takes Shape in the New Biotech Era” Rifkin says:

The Biotech Era will bring with it a different constellation of political visions and social forces, just as the Industrial Age did. The current debate over embryo and stem cell research already is loosening the old political allegiances and categories. It is just the beginning of the new politics of biology. (Rifkin, 2001)

The Kass Era

Despite these stirrings of left-right biopolitical coalitions, it was not until the appointment of Leon Kass as the chair of the President's Council on Bioethics (PCB) that the new biopolitics finally began to gel. Kass had opposed every intervention into human reproduction from *in vitro* fertilization to reproductive cloning, and his appointment was a Bush administration concession

to the religious Right, as he was certain to lead the council to condemn embryonic stem cell research. Kass stacked the PCB with conservatives and, after dutifully recommending that using embryos in research should be criminalized, he focused the PCB on opposition to human enhancement, from psychopharmaceuticals to life extension, resulting in the PCB's 2003 *Beyond Therapy* report.

The ascension of Kass was a shock to the liberal bioethics community, and their resentment was deepened by the growing realization that conservatives were pouring millions of dollars into the training and institutionalization of Christian Right bioethicists. The Women's Bioethics Project (Hinsch, 2005) documented the rapid growth of Christian Right bioethics organizations, and concluded:

Conservatives have well-established bioethics centers with strong advocacy outreach programs that are interlocking and supportive of each other.

Conservatives are using an existing infrastructure of think tank and religious organizations to drive awareness, energize their constituencies, and support a unified bioethics agenda.

Conservative foundations are strategically funding high-profile cases with a broad bioethics agenda in mind.

Conservatives see driving bioethical debate as critical to building a society based on their values and worldview.

Since 2001 opposition to human enhancement technologies has been a central motivating cause for these conservative biopolicy groups. The first two conferences (2003 and 2004) of the Christian Right Center for Bioethics and Culture (CBC) were on the theme "TechnoSapiens: The Face of the Future." The CBC also coordinated the "Manifesto on Biotechnology and Human Dignity," opposing abortion, cloning and human enhancement, and endorsed by most of the leaders of the American Right. In the Midwest the base for Christian Right bioethics is Chicago's Center for Bioethics and Human Dignity (CBHD) at Trinity International University. The CBHD has published many attacks on human enhancement, and warned the Christian Right about the threat from enhancement through conferences and with its network of hundreds of affiliated scholars and graduates. In 2006, for instance, the CBHD led a campaign involving the CBC, James Dobson's Focus on the Family, the Concerned Women of America, and the Christian Medical and Dental Association in an attack on a National Institutes of Health grant to progressive bioethicist Maxwell Mehlman for work on ethical guidelines for federally funded research on genetic enhancement. The campaign ludicrously insisted the grant was federal support for "Nazi eugenics" and "transhumanism," and that Mehlman was a prominent transhumanist.

The 2002 publication of Francis Fukuyama's critique of prospects for human enhancement, *Our Posthuman Future*, opened the door for serious consideration of human enhancement by the conservative policy establishment in Washington D.C. One prominent base for conservative bioethics in the Beltway is the Ethics and Public Policy Center, closely tied to the Kass council, and the source of the journal *New Atlantis*, which has published influential attacks on artificial intelligence, nanotechnology, biotechnology, reproductive technology, and life-extension.

Progressive critics of biotechnology also stepped up their opposition to enhancement technologies after 2001. For instance, in 2001 George Annas and Lori Andrews co-authored a piece arguing for an international treaty to make cloning and germline genetic therapy a "crime

against humanity,” a call taken up by the Left bioconservative group the Center for Genetics and Society. In 2003, liberal writer Bill McKibben weighed in with the anti-enhancement tract, *Enough*. The progressive Canadian group ETC began campaigning for a moratorium on nanotechnology and nano-enhancement. In 2003, Lori Andrews joined with the Christian Right's Nigel Cameron to unite a dozen prominent progressives and a dozen Religious Right activists in the first "fusion" bioconservative organization, the Chicago-based Institute for Biotechnology and Human Future.

The rise of Kass, the religious right, and anti-enhancement sentiment in turn forced some progressive bioethicists to clearly declare themselves on the side of human biological self-determination. In 2001, bioethicist Gregory Pence published his pro-cloning book *Who's Afraid of Human Cloning?* And, in 2002, Gregory Stock published *Redesigning Humans*, a defense of genetic enhancement and germline therapy. Progressive bioethicists Allen Buchanan, Dan Brock, Norman Daniels and Daniel Wikler co-authored *From Chance to Choice: Genetics and Justice*, defending the possibility, and even necessity, of a liberal egalitarian approach to human genetic enhancement.

The growing influence of the Right's bioethicists also created the need for a distinctly progressive bioethics voice, and leading liberal bioethicists such as Arthur Caplan, Glenn McGee, Alta Charo, Laurie Zoloth and Jonathan Moreno have sought to mobilize progressives in bioethics. As Kathryn Hinsch also noted in her 2005 report, however, explicitly progressive bioethics groups have far fewer funds, fewer troops, and a lot of theoretical work to do to mount a coherent response to the Right:

What progressive activities there are in the area of bioethics are under funded, narrowly focused, and lacking in a unified philosophical framework.

Although progressives dominate academic bioethics, the scholars are not trained and in many cases are disinclined to work from an explicit ideological framework.

Progressives will need to do more than throw money at the problem; it will require a major rethinking of the issues.

Among these problems, the "rethinking of the issues" is probably the most pressing. Besides advocacy of some form universal health care and reproductive rights, cultural and economic progressives are split on many of the emerging biopolitical issues. Does reproductive rights include prenatal screening and genetic engineering? Are people with disabilities liberated more by efforts to cure and ameliorate their disability, or do those efforts only oppress them further? Is the prospect of human enhancement a fulfillment of the progressive vision of human self-emancipation, or the road to a caste society?

BioPolitical Organizations Addressing Human Enhancement**Religious Bioconservatives**

Organization	Key personalities	Website	Description
Center for Bioethics and Culture Network (San Francisco)	Executive Director Jennifer Lahl	thecbc.org	A loose Christian Right network
Center for Bioethics and Human Dignity (Chicago)	John Kilner, chair of ethics at Trinity International University	cbhd.org	Runs influential training program and conferences at TIU
Ethics and Public Policy Center (Washington D.C.)	Eric Cohen and Adam Keiper, editors of <i>The New Atlantis</i>	eppc.org/programs/biotech	Beltway religious conservatives, tied to Kass; publish <i>New Atlantis</i>
Center for Nanotechnology and Society (Chicago)	Nigel Cameron, Director	nano-and-society.org	Opponent of nano-enhancement
Discovery Institute (Seattle)	Wesley J. Smith, Senior Fellow	discovery.org	Vocal opponent of evolution and human enhancement

Libertarian Transhumanists

Organization	Key personalities	Website	Description
Reason magazine (Washington D.C.)	Science writer Ron Bailey	reason.com	Leading libertarian journal; Bailey is prominent defender of enhancement technologies
Foresight Institute (Palo Alto, CA)	Chris Peterson	foresight.org	Advocate for molecular manufacturing and nano-enhancement

Left Bioconservatives

Organization	Key personalities	Website	Description
Center for Genetics and Society (San Francisco)	Marcy Darnovsky & Richard Hayes	genetics-and-society.org	Left opponents of "techno-eugenics"
ETC Group (Canada)		etcgroup.org	Opposed to genetic engineering and nanotechnology for safety and equity reasons
Not Dead Yet	Stephen Drake,	notdeadyet.org	Radical disability group, opposed

	Executive Director		to enhancement technologies
Friends of the Earth	Brent Blackwelder, President	foe.org	Active in bioconservative coalition-building against enhancement

Technoprogressives

Organization	Key personalities	Website	Description
Center for Responsible Nanotechnology	Mike Treder Chris Phoenix	crnano.org	Advocates for regulated, safe, egalitarian nano-enhancement
Center for Cognitive Liberty and Ethics	Wrye Sententia, Richard Boire	ccele.org	Advocates for "cognitive liberty"
Institute for Ethics and Emerging Technologies	J. Hughes, Executive Director	ieet.org	Technoprogressive virtual thinktank
IHEU Appignani Center for Humanist Bioethics	Ana Lita, Executive Director	iheu.org/bioethics	Lobbyist for humanist bioethics at the U.N.
Alliance for Aging Research	Daniel P. Perry, Executive Director	agingresearch.org	Lobbying for research into anti-aging therapies

Left-Right Fusion Bioconservatives

Organization	Key personalities	Website	Description
Institute for Biotechnology and a Human Future	Lori Andrews Nigel Cameron	thehumanfuture.com	Largely defunct and superceded by Cameron's CNS

Left-Libertarian Fusion Transhumanists

Organization	Key personalities	Website	Description
World Transhumanist Association	Nick Bostrom	transhumanism.org	Leading transhumanist group, with chapters worldwide

Section 2. Three Meta-Policy Contexts for Technoprogressive Approaches to Enhancement

There are three principal meta-policy contexts that will shape policy towards human enhancement technologies in the coming decade; the ongoing erosion of health insurance in the United States and need for a guarantee to basic universal health care; the demographic pressures of the aging of industrial societies; and globalization.

The U.S. Healthcare Crisis

Universal healthcare has been part of the U.S. progressive agenda since the Progressive movement a hundred years ago. It is clear that another wave of support for fundamental reform is building, may help win a Democratic presidency in 2008, and then be a central domestic agenda item for Congress. Since the last major reform push of private sector managed care in 1994 we have been unable to contain healthcare inflation, and the steady increase in the per capita and proportional costs of health care in the U.S. economy is hurting all other economic sectors which have to compete against foreign goods and services.

A single payer system is still a long shot, and the political rationales for a regulated universal health care voucher system such as that proposed by the Clinton reform effort of 1994 are still in place. Whether progressives are given the opportunity to rally behind a single payer or universal voucher reform proposal, however, there will be a need to define what the basic level of coverage is that The Plan or all offered plans must include. The benefits to be included in the basic level of care was a contentious issue for the Clinton plan in 1994, with vigorous debate about mental health benefits for instance. Inclusion of emerging enhancement technologies will be a part of any future reform debate as well, dividing technoprogressives and left bioconservatives over the relevance of the therapy/enhancement distinction, an argument that has already occurred around cosmetic procedures, sex reassignment, attention deficit disorder and fertility treatments. A technoprogressive approach to priority-setting would ignore dubious therapy/enhancement distinctions, and instead rely on cost-benefit analyses such as the Quality Adjusted Life Year. Therapies which provide a high per dollar return in QALYs (longevity times quality of life) would be included in a basic guaranteed level of coverage, while those providing fewer QALYs/dollar would be out-of-pocket.

Demographic Shifts and the Longevity Dividend

Industrialized societies are all facing some degree of structural adjustment as the number of retired seniors proportional to working tax-payers increases. In the U.S. this has been a poisonous issue for legislators, as the Bush administration and Republican Congress discovered when floating the idea of Social Security privatization in 2004-2005. Progressives will likely continue to rally behind Social Security, and attack the idea of a crisis. The prospect of enhancement technologies will play a critical role in the debate, however, as age-retarding therapies increasingly offer the prospect of extending the period of healthy, disability-free longevity, a "Longevity Dividend." (Olshansky et al. 2006) The incidence of disability and chronic illness among seniors in U.S. has already steadily fallen, leading the Census Bureau to push out their estimates of the insolvency of Medicare and Social Security. Age-retarding therapies offer the possibility of reducing age-related illness and disability further, reducing the

need for drugs and nursing care, and keeping seniors and their family care givers in the labor market.

Anti-aging therapies are already a widely popular idea, and the retiring Baby Boomers are sure to support a Longevity Dividend program of federal investments into anti-aging research, and the provision of effective therapies through Medicare or its successor. Although a technoprogressive advocacy for anti-aging therapies will be popular, this will again be an issue of contention with left bioconservatives who are likely to question the feasibility and desirability of such therapies.

Globalization

When Italy enacted draconian controls on assisted reproduction in 2004, restricting the right of lesbians and single women to fertility treatments for instance, Italian women with sufficient resources simply sought treatment in more liberal parts of Europe. Transgendered people in the U.S. increasingly travel to countries such as Thailand for sex re-assignment surgery, for a quarter of the price in the U.S. and without the need to wait through a year of psychiatric evaluation. Brazil, Bolivia, Mexico, Colombia, Costa Rica, Argentina, Israel, Singapore, Malaysia, India, the Philippines and South Africa have become magnets for Americans seeking inexpensive cosmetic surgery and elective surgeries, for as little as a tenth the cost as in the U.S. Some U.S. employers, facing mounting health insurance premiums, have encouraged employees to seek medical treatments abroad.

The globalization of medical treatment poses a major challenge to efforts to regulate human enhancement technologies, especially for progressives. If prenatal genetic and anti-aging treatments, or novel prosthetics and body modifications, are restricted in the U.S. there are sure to be less-regulated providers somewhere else in the world. To the extent that restrictions on enhancement technologies are imposed in one country they will only penalize the poor, not the affluent who can afford to travel abroad.

Globalization also will impact the debate over human enhancement in the area of economic competitiveness. The rise of the Indian and Chinese economies, combined with their investments in higher education and emerging technologies, and their large populations and relatively low wages, ensure that they will increasingly draw investment capital away from the U.S. and compete against U.S. goods in international trade. In the 1990s, Robert Reich argued that the U.S. could compete in the global economy by upskilling U.S. workers to take on increasingly high-tech and knowledge-intensive work. Unfortunately the rising cost of American higher education, and meager federal aid, has caused the U.S. to fall behind many other industrialized countries in the production of graduates, especially in math, science and engineering.

As enhancement therapies become increasingly efficacious they will also impact economic competitiveness, directly by extending the abilities and productivity of workers, and indirectly by adding workers to the labor force who would otherwise have been disabled. India and China, lacking any notable bioconservative resistance to enhancement technologies, will especially welcome the prospect of using enhancement technologies to facilitate their economic growth. The pressure of global competition will thus also likely encourage liberal, universal access to enhancement technologies in the U.S.

Section 3. Who are Potential Technoprogressive Constituencies?

The New Deal coalition has eroded since the 1970s, torn apart by the Democratic Party's unwillingness to mobilize the middle class and the poor with populist economic appeals, and the New Right's success in appealing to the cultural conservatism of the religious, the poor, and white men. The Congressional Progressive Caucus has been a consistent and growing voice for a social democratic re-orientation of the Democratic Party, one which has much promise in winning back groups alienated by the Culture War. However, if my analysis of emergent biopolitics is correct, rebuilding a majority coalition for progressive reform will require not only a re-emphasis on economic populism, but also a conscious strategy of biopolitical appeals. Just as segments of the public were alienated from the Democrats when they were caricatured as effete, disdainful, atheist, gay abortionists, segments of the religious Right are already testing the mobilizing effect of labeling the Left as promoters of Brave New World, while libertarians deride liberals and the FDA for standing in the way of life-saving medicine.

Articulating a technoprogressive approach to biopolitics offers both a secure philosophical and consistent policy basis for making popular biopolitical appeals to important constituencies, helping to build their support for a broader progressive movement.

Seniors

Seniors are the first and most obvious constituency to whom a guarantee of universal access to safe enhancement medicine, in particular anti-aging medicine, will appeal. Progressives have a natural case to make that the bioconservative insistence that seniors get sick and die on time is profoundly ageist. On the other hand, the prospect of successful prolongevity also poses challenges for progressives, as we will need to argue for a progressive re-negotiation of the work life, pensions, and the retirement age. But the alternative is a breakdown in generational equity and solidarity, and potentially of the safety net itself.

The Disabled

People with disabilities, using the latest assistive technologies and with their eyes fixed on medical progress, are also a natural constituency for technoprogressive advocacy for enhancing technologies. By appealing to the vast majority of disabled who strongly support enabling cures and prosthetics progressives can marginalize the few but vocal radical disability activists who reject enhancing technologies as neo-eugenic. This is especially true since these radicals aligned with the Right during the Terri Schiavo controversy. Although issues such as prenatal screening and cochlear implants will likely remain difficult, strong commitments to research into, and access to, curative and enabling technologies will likely overcome these qualms.

Reproductive Rights Supporters

Bioconservative feminists have found it difficult to convince women that some choices they might make about the contents of their wombs are not included in reproductive rights, and for good reason. Although activism on behalf of contraception and abortion has rarely included demands for freedom of germinal choice and access to artificial reproductive technologies, these are two sides of the same coin. The struggle for reproductive rights has been technoprogressive from its outset, a struggle for universal access to safe enabling technologies that permit control of human reproduction in novel, "unnatural" ways. Today the idea that only parents, and not the state, should make reproductive decisions is broadly popular. Even support for parents' rights to

prenatal genetic enhancement and sex selection is growing, as documented by surveys by the Center for Genetics and Public Policy. By embracing a full conception of reproductive rights, including the right to ensure the fullest health and ability for one's children with safe and accessible enhancing technologies, a technoprogressive approach can appeal broadly to parents.

Drug Law Reform Advocates

The War on Drugs has been an enormous obstacle to progressive reform, wasting public finances on the prison-industrial complex and militarizing communities of the poor and people of color, while doing nothing to reduce the burdens of chemical dependency. In the coming decade therapies to treat and prevent chemical dependencies will hopefully shift the debate in favor of a public health approach to illegal narcotics. But progressives cannot wait for these therapies, and must embrace drug law reform as a central, albeit less popular, issue.

Rational drug law reform, based on sound research on harm, will also have a strong impact on the regulation of cognitive enhancement drugs such as Modafinil. While there is still broad support for a criminal approach to psychopharmaceuticals, distinguishing between those with low risk, such as cannabis and cognitive enhancers, and those with high risks, such as methamphetamine, is an approach that polling suggests many people will understand.

Health Lobbies and the Scientific Community

The Republican war on science (Mooney, 2005), in particular the battle over embryonic stem cell research, has pushed many patient advocacy groups and scientific lobbies in Washington toward the Democrats. These groups share a broad interest with technoprogressives in seeing increased public financing of medical research and in protecting the freedom to conduct research from bioconservative bans.

Sex-Gender Nonconformists

Gays, lesbians, bisexuals and transgenders are a natural technoprogressive constituency with intrinsic interests in enhancing technologies. The champions of natural law attack sex-gender nonconformity and human enhancement with the same arguments. Gays and lesbians have already been victimized by bioconservative laws, such as those in Italy, denying them access to reproductive technology. Access to safe, subsidized cosmetic, hormonal and, potentially, genetic therapies is a central issue for transgenders.

In short, the technoprogressive appeal, defending the right to use regulated and widely accessible emerging technologies in enabling ways, is a key component in building both a popular and philosophically consistent progressive coalition.

Section 4. Technoprogressive Approaches to Funding, Regulating and Providing Enhancing Technologies

Ensure Universal Access to *all* Beneficial Biotechnologies through Universal Public Provision A technoprogressive approach acknowledges that emerging and enhancing technologies can exacerbate inequality. But technoprogressives believe that the best way to ameliorate this risk is to ensure ever greater access to the benefits of enabling technologies, as with literacy, laptops and health care. Progressives have never argued for the banning of

expensive but beneficial medical therapies, such as anti-retroviral therapies for HIV, but rather sought ways to make them accessible to everyone who needs and wants them.

Eliminate the Therapy/Enhancement Distinction in Research Funding and Healthcare. Progressives should set priorities about research funding, regulation and provision with utilitarian rubrics such as the Quality Adjusted Life Year (QALY), not on the basis of shaky, pre-modern ideas of normative health. A QALY-based assessment would include both "therapies" and "enhancements" in a basic guaranteed tier of insurance if they provide a high level of QALY/dollar.

Regulate Enhancement Technologies for Safety not Morality. Technoprogressives argues for vigorous and independent regulation of emerging technologies to ensure their safety and efficacy, and other *tangible* public goods, while remaining generally neutral about the life goals that guide their consensual use. Technoprogressives reject bioconservative demands for moral regulation of biotechnology, or that technologies be banned on the grounds that they might have vaguely defined ill effects on the family or social solidarity.

Defend Cognitive Liberty with Rational Drug Law Reform. The 2006 UK Science and Technology Select Committee review of British drug laws in relation to the latest assessments of risks associated with drugs is a model for technoprogressive reform. Under a harm-based regulatory system access to cognitive enhancement drugs would likely be liberalized, along with low-risk recreational drugs such as cannabis and MDMA.

Federally Fund Research into the Biology of Aging and Other Enhancement Targets. Many areas of basic science research contribute to innovation in enabling and life extending technologies, without being targeted at those goals. But federal programs that specifically target enhancement will speed the pace of development. One such technoprogressive initiative is the recent call by a broad coalition of biogerontologists and public policy scholars (Olshansky et al., 2006) for the NIH to create a specific "Longevity Dividend" program into the biology of aging and therapies to slow aging. The proposal for a "Cognos" brain science initiative made by the Nano-Bio-Info-Cogno project (Bainbridge and Roco, 2002) of the National Science Foundation would be another example.

Roll Back Intellectual Property Overreach, Especially in the Human Genome. The legally groundless patenting of the human genome – which is not an invention – stands in the way of further biomedical progress, enhancing or otherwise. Technoprogressives oppose this corporate overreach and seek a far more conservative standard in intellectual property in general to protect fair use and the sharing of information.

Establish Cognitive Personhood As the Basis of Rights-Bearing Under the Law. Humanness is a reactionary, pre-Enlightenment standard on which to base rights-bearing. Technoprogressives advocate for a cognitive standard for personhood, relevant in abortion, embryo research, brain injury and brain death, genetic enhancement, animal and human-animal chimera rights, and potentially in adjudicating the status of machine-augmented humans and machine minds.

Conclusions

As progressive bioethicists work to articulate their policies and beliefs, they find themselves divided by the emerging biopolitics. Insofar as left bioconservatives are strictly concerned with the safety of therapies and their equitable distribution these concerns can be addressed by a technoprogressive program of thorough and independent regulation and a universal health care system. Insofar as bioconservative concerns are motivated by deeper

suspicions about the Enlightenment project that technoprogressivism and human enhancement embody, however, then a common progressive bioethics program is unlikely. A technoprogressive approach to human enhancement technologies is merely the consistent application of the values that have been at the core of progressive political movements since the Enlightenment: the right of individuals to be free to control their own bodies, brains, and reproduction according to their own conscience, under democratic states that work for the public good. If progressives and progressive bioethicists adopt this consistent approach, they can make popular biopolitical appeals to key constituencies, and build a majority coalition in support of progressive change.

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