



Introduction to the HETHR papers

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In the Spring of 2006, the Institute for Ethics and Emerging Technologies and the Center for Cognitive Liberty and Ethics organized a conference on Human Enhancement Technologies and Human Rights (HETHR) with the co-sponsorship of the Stanford Center for Law and the Biosciences, GeneForum, the ExtraLife Foundation and the Stanford Program in Ethics in Society. The conference was held May 26-28, 2006 at the Stanford Law School and more than fifty people, representing a frothy mix of philosophers, lawyers and political scientists, presented provocative and cutting edge arguments addressing cognitive enhancement, genetic modification, and life extension.

The HETHR conferees were meeting in the wake of four years of vigorous debate over the alleged threats that enhancement technologies posed to human rights. In 2001, conservative philosopher Leon Kass, an outspoken opponent of in-vitro fertilization, stem cell research and life extension, had been appointed by George Bush to head the U.S. President's Council on Bioethics (PCB). Kass subsequently appointed a number of conservative intellectuals to that body, including Francis Fukuyama and Charles Krauthammer. Under Kass and Fukuyama's direction the PCB's first order of business was the supposed threat to humanity from human enhancement technologies.

In 2002, Francis Fukuyama published *Our Posthuman Future*, which argued for global treaties to restrict enhancement technologies that he argued threatened the foundation of human rights. Also in 2002, Leon Kass published *Life, Liberty and the Defense of Dignity*, which argued that life extension and other enhancements were "dehumanizing." In 2003, the PCB published its own critique of human enhancement, *Beyond Therapy*, reflecting many of Kass and Fukuyama's concerns about "better children," "ageless bodies" and "happy souls." The journal *New Atlantis* was also created in 2003 at the conservative Washington thinktank the Ethics and Public Policy Center to work closely with Kass and the PCB to promote this new conservative critique of enhancement technologies.

In the same period a diverse coalition of "bioconservative" groups on the left, right and center emerged to promote laws and international treaties to restrict individuals' rights to control their own genomes. Christian conservatives began to create conservative bioethics institutions such as the Center for Bioethics and Culture and the Center for Bioethics and Human Dignity, with the struggle against the coming of "technosapiens" as their rallying cause. Bioconservative groups on the secular and environmentalist Left emerged, such as ETC Group and the Center for Genetics and Society, to argue that enhancement technologies, from reproductive technologies to stem cell

therapies to nanomedicine, would exacerbate inequalities and further disempower women, ethnic minorities and the developing world. In 2003, the environmentalist Bill McKibben published *Enough: Staying Human in an Engineered Age*, arguing for a renunciation of further medical progress. In an explicit attempt to create a coalition of left and right-wing opponents of enhancement, conservative activist Nigel Cameron and liberal law professor Lori Andrews created the Institute on Biotechnology and the Human Future, staffed with both pro-choice and pro-life activists.

Given all this mobilization against human enhancement technologies one would have expected there would be large and well-funded groups promoting these technologies. In a sense there were, in that the bioscience enterprise – grounded in human desire – has pressed towards human enhancement for centuries. Applying technology to cure illness and disability, extend life, and enhance the mind had been explicit in the Enlightenment project since Francis Bacon imagined in 1627 in his *New Atlantis* that science would permit “the prolongation of life,” the “restitution of youth,” the “curing of diseases counted incurable,” the “transformation of bodies into other bodies,” and the “making of new species.” From the perspective of the bioconservative skeptics, hundreds of billions of dollars are today being spent on the thoughtless promotion of these goals, from agribusiness tweaking of crops, to pharmaceutical research on antidepressants, to nanomedical enhancements for supersoldiers. All these corporate, academic and governmental biotechnological projects have their own well-funded journals, thinktanks, and professional associations vigorously defending their diverse projects as useful and necessary. But they never defend bioscience as “human enhancement technology,” nor directly confront bioconservative arguments that human enhancement threatens human rights. More often, pro-bioscience voices disingenuously disparage both the feasibility and desirability of human enhancement in order to defend the inoffensive, incremental nature of their specific technologies.

With the exception of my own 2004 social democratic defense of enhancement, *Citizen Cyborg*, most of the small number of defenders of individual rights to enhancement were, in 2006, libertarians like Ronald Bailey with his 2005 *Liberation Biology*. Although the libertarians advocate a right to enhancement, they generally discount concerns about the effective regulation and equitable access to the technologies. With the debate about enhancement dominated by religious and left-wing bioconservatives on one side, and vested interests and libertarians on the other, there was a need for serious, balanced debate about enhancement that included the “technoprogressive” perspective that enhancements were not only feasible, but might even promote individual empowerment, social equality and cultural diversity if properly regulated and made accessible through universal health care systems.

The HETHR conference gathered both critics and defenders of enhancement to ask questions that had not yet been asked: What, if any, limits should be considered to human enhancement if we take bodily autonomy, reproductive rights and cognitive liberty seriously? Can we ensure that enhancement technologies are safe and equitably distributed? Might enhancements create an unprecedented diversity of human beings, and what new challenges might that diversity create? When are calls for regulation necessary and when are they simply covert, illiberal value judgments?

In this collection of papers from the conference these issues are addressed around three basic questions:

- a) In what sense could enhancement be a right, and what restrictions can be placed on that right?
- b) How should democratic deliberation, individual rights and egalitarian claims shape the innovation of and access to enhancement technologies?

c) How do future enhancement technologies, especially neurotechnologies, challenge individual and species identity?

A Right to Life and Liberty

Before we can answer whether there might be a right to enhancement, or how enhancement might challenge rights, we have to confront the long debate about rights are and how they are grounded. In “Is Enhancement Worthy of Being a Right?” Patrick Hopkins outlines three rights discourses: appeals to autonomy; appeals to interests; and appeals to natural law. Addressing the “pro-enhancement crowd,” Hopkins argues that the appeal to autonomy is the weakest, since it does not make the case that enhancement is worthwhile in itself. Appeals to interests are more powerful since they ground a claim to enhancement in achieving desirable life ends. Most challenging, however, is Hopkins’ argument that enhancement can in fact be seen as an expression of human nature, an outgrowth of our intrinsic drives toward more life, happiness, intelligence and even transcendence. Since this appeal to natural law confronts many of the most trenchant bioconservative critics on their own logic, Hopkins urges enhancers to explore how enhancement may allow us to be more “worthwhile, dignified, and noble.”

Patrick Lin and Fritz Allhoff’s paper “Against Unrestricted Human Enhancement” covers similar territory in its response to the four arguments for enhancement that they read in Ramez Naam’s 2005 book *More Than Human*: first, that there are pragmatic reasons for embracing enhancement; second, that regulation of human enhancement will not work; third, that respect for our autonomy prohibits restrictions on enhancement; and, fourth, that the desire to enhance is inherently human and therefore must be respected. Like Hopkins, Lin and Allhoff agree there are arguments for enhancement on the grounds that it serves interests and that it expresses human nature. As to the interests argument, however, they argue that there are meaningful differences between our interests in therapy and our interests in enhancement, and that the latter may have considerably more risks. As to the human nature argument, they note that this argument can slip into the naturalistic fallacy: just because humans always want more life or intelligence doesn’t mean it is good that they should have more. Lin and Allhoff also take issue with the libertarian logic behind Naam’s insistence that enhancement should not and cannot be regulated. Like all rights claims, claims to a right to enhancement have to be balanced against other rights and interests within a regulatory framework that ensures safety and equity, and if global medical tourism allow some to escape national regulations this only argues for the globalization of regulation.

In “The right not to be normal as the essence of freedom,” Anita Silvers draws out a different libertarian logic for enhancement technologies from the debates over disability rights and performance enhancement in sports. Like the disabled, would-be enhancers can and should challenge communitarian attempts to enforce a biological and cognitive norm. Greater diversity is the most likely result of the widespread access to enhancing technologies, and that should be an end in itself. An example of the respect for both disabled and enhancement diversity is the double amputee sprinter, Oscar Pistorius, who was then contesting to be able to use his specialized prosthetic legs to compete in the 2008 Olympics. Although arguing Pistorius’ case, Silvers cautions that competitive sports are a poor model for the social benefits of a right to enhancement. She challenges us to imagine how enhancements might be deployed to facilitate collaboration and cooperation.

Eva Caldera grapples with the differences between libertarian, social contractarian and communitarian arguments about enhancement rights in her paper “Cognitive Enhancement and Theories of Justice.” She suggests that each may be inadequate in its model of social equity and human flourishing in giving us answers about enhancement rights. For a Rawlsian social contractarian, the ability to shape human talents through enhancement would oblige that we re-

engineer human beings in a more egalitarian direction, which she suggests would violate personal identity. For libertarians like Nozick, although they might embrace a right to enhancement, it could violate core principles of self-ownership and autonomy. For communitarians like Michael Sandel, author of the 2007 book *The Case Against Perfection*, enhancement both violates community norms and erodes even the ability to agree about community norms.

In his paper “Germ-Line Genetic Enhancement and Rawlsian Primary Goods,” Fritz Allhoff grapples more fully with a Rawlsian approach to enhancement. A Rawlsian approach to a just society requires a distinction between primary goods that every rational person should value, regardless of their conception of the good, such as health, wealth and intelligence, and secondary goods which are only good for some people. For Rawlsians, the ideal society ensures general access to primary goods. Allhoff suggests that a moral distinction can therefore be made which permits inheritable genetic enhancement of generally desirable primary goods, such as life, health and intelligence, and is more restrictive with enhancement of secondary goods such as gender, skin color or height.

In “Our Right to Life,” Aubrey de Grey confines himself to consideration of just one “primary good” biotechnical goal, life extension, probably the least contested of the enhancement projects. De Grey starts from the intuitionist arguments against enhancement of people like Leon Kass – that enhancements are intuitively repugnant – and turns the argument on its head; aging and death are what are intuitively repugnant. Taking this moral intuition into account, along with “cognitive-agnostic” ethical principles based on Rawls’ proposed “reflective equilibrium” method, de Grey argues, will lead us to the conclusion that aging is not only undesirable, but that we have a moral obligation to cure it.

Democratization of Enhancement

There are three key issues in the democratization of enhancement technologies: ensuring accountability in research and development; ensuring universal access to the benefits of the technologies; and ensuring adequate but liberal regulation of their use. Three papers address the first issue, how the research and development of enhancement technologies should be democratized. The first is Greg Fowler and Kirk Allison’s “Technology and Citizenry: A Model for Public Consultation in Science Policy Formation.” Fowler runs GeneForum, an initiative at Portland State University that promotes citizen engagement in science policy decision-making, in particular bio- and nanotechnologies. Fowler and Allison describe the growth of various models for public consultation, including their own which involves public forums and focus groups, public opinion surveys, educational programs with schools and the media, interviews with experts, and the creation of print and web resources. Ideally these are to be funded by legislative and regulatory bodies, and the results fed back into the creation of laws and regulations. This model is explicit about how the public citizen’s right to democratic input into shaping the technological future can be balanced against more libertarian claims for the rights of the consumer. Instead of democratic oversight being seen simply as a Luddite barrier which enhancement technologies need to sneak past, these consultative processes can improve research agendas and social implementation, resulting in a more successful long-term embrace of enhancement technologies.

Fred Gifford addresses a more traditional issue for human rights and medical ethics, the rights of human subjects of biomedical research, in his “Ethical Issues in Enhancement Research.” He discusses how difficult it will be for researchers to assess the social value or risks and benefits of the research, much less communicate them to research subjects in an informed consent process. He also discusses the critical issue of equity in the selection of subjects. Will only the sick and poor be guinea pigs for the perfection of these technologies? If enhancement technologies have to be developed first as therapies before they can later be applied, off-label, as enhancements then in

fact the sick will bear the brunt of their risks.

Martin Gundersen addresses a related research ethics issue in “Genetic Engineering and the Consent of Future Persons”; is it a violation of the rights of future people when we experiment on the genomes they will inherit without their consent? While Gundersen makes the obvious point that everything we do shapes the future without the consent of our hypothetical descendants, he also makes the far more interesting point that respecting the autonomy of our descendants can shape our approach to germline genetic enhancement; we are obliged to make enhancements that expand and do not restrict their capacities for autonomy. On those grounds some genetic enhancements may in fact be morally obliged.

Martin Gundersen also contributed a paper on the topic of global treaties, “Enhancing Human Rights: How the Use of Human Rights Treaties to Prohibit Genetic Engineering Weakens Human Rights,” which is not that far removed from the topic of the rights of future generations since defending humanity’s “genetic patrimony” is often deployed as an argument for global treaties to prohibit human enhancement technologies. Gundersen is skeptical of such treaties. A right to an unmodified genome is meaningless since it implies a ban on even therapeutic genetic modification. If the treaties permit therapeutic genetic engineering then they face the difficulty of reaching a consensus about which enhancements are therapeutic and which are enhancing. In the attempt to protect individuals’ right to an unmodified genome the bioconservatives also commit the sin they inveigh against, reducing of persons to their genomes, while denying them the right to improve themselves. The bioconservatives’ dilemma is particularly acute when they argue for a ban on cloning by asserting a right to a unique genome; would this not make twins illegal?

After ensuring that the research process is conducted ethically, is democratically accountable, and that enhancement technologies have been tested for risks and benefits in a rigorous way, the most pressing democratic challenge is to ensure that the technologies benefits are made universally accessible. Although the United States and Turkey stand alone as the two industrial countries without universal health care systems, the biggest challenge to ensuring universal access to enhancement therapies is the same across the world: the distinction between therapies and enhancements. Whether the insurer is public or private this illusory distinction is used to determine which therapies should and shouldn’t be provided. Laura Colleton addresses this issue in “Health Care Access in the U.S. and the Elusive Line Between Enhancement and Therapy,” recounting the difficulties patients with chronic pain and depression have in accessing therapies given the blurry boundaries around such conditions; if the patients aren’t in “enough” pain or depression then they might be receiving a forbidden enhancing treatment rather than a therapy. As Colleton notes, some calculus must be used to determine what should be covered and what should be left to the market if the health care (public or private) is to remain affordable. But the therapy-enhancement distinction is a particularly poor way to make that cut.

Neurotechnological Challenges to Legal Personhood

Dawn Jakubowski also uses depression as her case study in “Cognitive Enhancement and Liberatory Possibilities.” She summarizes the concerns expressed about antidepressants as being about “disconnection” or emotional authenticity, and about “commodification” or the alleged dulling of legitimate unhappiness with oppression and the conditions of modern life. Jakubowski argues that antidepressants do not eliminate emotional or existential self-awareness, nor they disempower the victims. In fact antidepressants, when they work, return capacities for self-assertion and self-awareness giving “a strong prima facie political and ethical reason to employ them.”

In “Cognitive Enhancement and the Identity Objection,” Mark Walker addresses a complaint often directed against cognitive technologies, one related to the issue of emotional authenticity; at

some point in mucking around in our brains don't we stop being the same person? If using enhancement to become a "posthuman" means fundamentally changing one's identity, in some Aristotelian sense, then it equates with an act of suicide. For Buddhist Parfitians like myself, this is a false dilemma since personal identity is only a useful fiction, but most people do assert some limit on the degree to which we can change without losing personal identity. What Walker points out is that even if we are killing our unenhanced self we are also creating a new self, just like we might produce a child, and we may have a right to do both things, at least if we do so gradually to maintain the continuity between the prior and the latter persons.

In "Are We Transbemens Yet?" Martine Rothblatt kicks the challenge of personal identity maintenance in the era of neurotechnology up a notch by letting go of the chimera of discrete personal identity. For Rothblatt, the human personality can be decomposed into "bemens," discrete units of personal experience, memory and personality. Rothblatt imagines that we will eventually be able to record and upload these building blocks of identity into computers that can recreate the personality they came from. These "bemens" should, Rothblatt argues, have the same rights as the persons they were reconstructed from. But doesn't the deconstruction and copying of personality, and even more so the possible creation of new blended personalities or borgansisms, make the continuity of legal personhood pretty problematic? Rothblatt doesn't address the erosion of personal identity in depth but hints at the revolutionary effect on culture and politics that a "trans-beman" era would portend. Rothblatt goes on to argue that bioconservative aversion to acknowledging the legal personhood and rights of bemens is a form of racism or ableism; legal personhood should be "substrate independent."

George Dvorsky takes the argument for the "substrate independence" of rights to their furthest conclusion in "All Together Now: Considerations for biologically uplifting non-human animals." If the substrate of a mind is irrelevant to the rights it is due, as both animal rights philosophers and transhumanists argue, then we need to consider that animals may have a right to enhancement as well. Cognitive enhancement of animals is known as "uplift" after a series of novels by David Brin exploring the idea. While the rejection of animal rights, and their right to uplift, can be seen as a form of racism, i.e. species-ism or human-racism," Dvorsky discusses the objection to uplift that it is akin to European "white man's burden," a form of inter-species colonialism. Dvorsky argues that the assimilation of animals into human-level cognition is as inevitable as the assimilation of less complex civilizations by more complex civilizations.

Dvorsky goes on to consider a Rawlsian approach to the problem of uplift. Rawls asked that we place ourselves behind the veil of ignorance and design a society that we would be comfortable in no matter where we found ourselves. But Rawls' thought experiment restricted possible incarnations to human lives. If we include animals in the range of possible incarnations we would then have a strong incentive to explore the uplift of animals. As some humans "fared poorly in the genetic lottery, it can be said that nonhumans have missed out in the species lottery."

If we were to begin uplifting animals, however, there is the dark possibility of the deliberate creation of animals enhanced to serve only as happy slaves for humans. Dvorsky argues that, just as we are obliged to regulate human enhancement to forbid any deliberate constraint on autonomy and psychological flourishing, these same injunctions should apply to a project of animal uplift.

Although these are only a portion of the papers presented in 2006, this set of essays reflects the amazing width and depth of the debates begun at that meeting, and still ongoing. Thanks to the authors for their patience with the long gestation of this special issue of JET.