

Elucidating a theory of intrinsic value is an urgent task for Transhumanism. Indeed, our opponents distinguish themselves precisely by refusing to delve beyond their intuitions that the use of enhancement technology is wrong. Yet both proponents and critics of enhancement technologies are often guilty of the same error. For example, some libertarian supporters of transhumanist technologies assume that within certain self-regarding spheres, an agent's subjective personal preference is unquestionable, and ought to be decisive—all is justifiable in the name of personal freedom. On the other hand, certain bio-conservative pundits attack preferences for enhancements such as cosmetic procedures as frivolous, irresponsible, and even immoral. Often, such critiques try to have it both ways. If standards of beauty are truly subjective, there are no intrinsic grounds for attacking the cosmetic alteration (the critique must cite other negative social externalities). If there are objective reasons for wanting to use a given technology, then we may actually have a duty to help individuals access it. Without further information, we must conclude that a preference is amoral. I might prefer anything at all, and what is lacking in the current debate is a comprehensive account of what an agent's well-being consists of. Fundamentally, the strength of a person's preferences, independent of a judgment of what there is reason to prefer, has insufficient connection with the idea of the good of the person—what actually makes his or her life better or worse. That is, something is not valuable because it is preferred; rather an agent forms a preference for something because he values it independently on some other grounds.

### **Changing the Terms of Debate**

“I asked Richard, when he invited me to come here and speak, whether he wanted an institutional talk about Harvard's policies toward diversity or whether he wanted some questions asked and some attempts at provocation, because I was willing to do the second and didn't feel like doing the first” (Summers 2005,

n.p.) Famous last words: in January, 2005, former Harvard President Larry Summers was invited to speak about diversity and committed a fatal error when he suggested that there may be some “innate” or “biological” explanations for why women are under-represented at the highest levels of science.

Summers began with an innocent enough premise: “It is after all not the case that the role of women in science is the only example of a group that is significantly underrepresented in an important activity and whose underrepresentation contributes to a shortage of role models for others who are considering being in that group. To take a set of diverse examples, the data will, I am confident, reveal that Catholics are substantially underrepresented in investment banking, which is an enormously high-paying profession in our society; that white men are very substantially underrepresented in the National Basketball Association; and that Jews are very substantially underrepresented in farming and in agriculture” (Summers 2005, n.p.) However, Summers then got himself into trouble by saying that he doubts a “socialization” hypothesis can explain the preponderance of men at the highest levels of the sciences—instead, he believes that girls and boys have different (unlearned) tastes, and that different innate abilities explain the differences in representation (even small differences in the standard deviation translate into very large differences in the talent pool later in life).

From a transhumanist perspective, Summers’ comments seem boring and the entire “scandal” misses the point. Certainly, Summers’ impromptu hypothesizing was not up to the rigorous standards of the scientific method, but it wasn’t intended to be. Sadly, the entire fiasco is more a testament to Harvard’s political correctness and the faculty’s often combative stance toward any authority (prior to the incident they had already engaged in a power struggle with the president over a number of issues involving faculty accountability/lack thereof), than any “sexism” on the part of Summers. To me, the president’s remarks were problematic because they seem to invoke the inappropriate level of explanation. For example, some evolutionary enthusiasts “fetishize” evolution, invoking selection as an explanation for every human. Consider three examples. Is there a gay gene? Homosexuality must confer some benefit—the homosexual member of the family will dedicate his/her time to raising a sibling’s child, thus increasing the total fitness of the family’s genes! Likewise, an adaptive explanation of rape stipulates that it must confer an advantage by allowing the rapist to pass on his genes. Finally, evolutionary explanations of reading posit that there must be a special “module” that controls reading since we are so good at it. Actually, evolution does not act directly on these specific behaviors. Reading and writing “piggybacked” on top of the complex cognitive machinery that was built up over the course of evolution. Evolution instills general purpose drives—for food and sex, etc. This is a much more efficient mechanism for ensuring flexibility that will aid human survival than is building a specific “rape” drive. Accordingly, my own unscientific hypothesis about why women are underrepresented in some professions would run as follows.

Women are clearly underrepresented in many areas ranging from comic book conventions, science fiction conventions, and Transhumanist conferences, to professions such as computer programming, and the natural sciences. Serial killers are also overwhelmingly male. We know that testosterone and other sex hormones have profound early effects on brain development even in the womb. Nobel prize winners and other “ultra-achievers” in these fields where women are underrepresented tend to be rather obsessive in certain respects. My suspicion is that testosterone influences propensity to engage in obsessive activities of all sorts, and because obsessive dedication and training are the most important determinants of expertise, which leads to achievement, testosterone explains the different proportions of men and women in certain areas. Simply put, perhaps women tend to choose a more balanced life and are less likely to work an 80 hour week at whatever endeavor. In a society that currently glorifies professional achievement, drive, and extremist dedication at the expense of leisure and family life, maybe we should question the premise that unrestrained, “masculine” behavior patterns are to be encouraged for men and women alike!

We know that there are some biological differences between the sexes. We also know that much or most of “gender” is socially constructed. So what? Transhumanists don’t get upset by what may or may not have a biological basis. If “female” brains have some advantages for some tasks, and “male” brains excel at others, a Transhumanist is interested in finding out how to combine the best aspects of both so that we can live happily ever after in a “post-gender” world. Want to be a man, woman, some combination of both? Complete, functional sex changes and augmentations (multiple genitalia anyone?) may well become a reality in the future. Feathers, fur, wings, fish scales? After one has thought through the implications of artificial wombs and morphological freedom, the old debates seem tame.

Let’s take a final case where the current terms of debate are entirely inadequate. I am straight. I am sexually attracted to women; I “prefer” them. Much to my chagrin, I don’t like men, even though they like me, and over the years I have missed out on a number of opportunities when I have had to politely decline an advance. Is it a sexual “preference” or sexual “orientation?” This terminology obscures the issue. Who cares? Evidently, the public cares a great deal because there is an unending debate over whether homosexuality is “genetic” or a lifestyle choice. This debate is superficial not only because every behavior or trait has environmental influences (when a kitten’s eye is covered during the crucial period of development it will be blind, despite sight being “genetically” hard-wired), but because even if we answer it definitively, it does not matter morally. If it is “genetic” then it is un-chosen and a person cannot be held responsible or blamed for it. If it is a choice, this is equally irrelevant, because an adult’s preferences as to which other adults he/she wants to have sex with are not the proper subject matter of moral evaluation. Preferences are morally inert. I have a whole slew of preferences that are amoral—I don’t like fat women, for example. I rank women according to the following order: I am most attracted to Caucasian women (blondes are first within this group), then Hispanic, then Asian, then Black. Am I a racist? Should I be worried that I have noticed this feature about myself? What about ugly people, should I not “discriminate” against potential mates based on whether I find them attractive? Is there anything wrong with being most attracted to women of one’s own race? These kinds of preferences, be they “innate,” instilled through some evolutionary mechanism, or learned through socialization, are neither intrinsically good nor bad.

As we will explore shortly, when certain individual preferences are acted upon, the social consequences may be harmful and the end result immoral. This is analogous to the coordination game of deciding which side of the road to drive on—the choice of left or right is arbitrary, but it is important that we all make the same choice. In my life, I am obligated to act upon my preferences in a responsible manner. That is, I do not advertise my disgust for fat women—this is gratuitous and offensive. We can imagine a sliding scale where my brute preference is decisive and unquestionable in some areas, and should rightly be over-ruled in others. Because I am typically less attracted to fat women and women of black ethnicity, or for that matter, women with terrible body odour, I am unlikely to be actively pursuing to date them. If however, I find that I am engaged in a friendship with a female with these characteristics, and the relationship takes a romantic turn, I will have to evaluate the weighting of my preference, as I would not want superficial features to stand in the way of “true love.”

Can sexual orientation be similarly overturned? The incidence of opportunistic homosexuality in prisons suggests that orientation is flexible and that sometimes humans decide any kind of sex is better than no sex. Still, it seems unreasonable for a homosexual man to fault me for not returning his attentions. Sure, it might be possible for me to overcome my initial revulsion to the idea of sex with a man, but why should I? This disutility that I feel is too high an initial barrier to beginning a relationship, and without some countervailing reason, the brute fact of my not liking men is decisive and cannot be indicted as “immoral.”

Most of our concerns about racism, sexism, and discrimination center on the feeling that characteristics that are un-chosen should not be the object of approbation or disapprobation. In a Transhuman world of total choice and morphological freedom, these types of discrimination would simply cease to operate. I

hate “purple people.” The statement is nonsensical. First, it is not rational to hate a *group* of people. Hatred is an intimate interpersonal undertaking—it requires an intricate process of responding to an individual’s character, the special way they conduct themselves that makes you truly despise them. Likewise, love involves firsthand *knowledge* of, and *responding to* an individual’s characteristics, not a group’s. Second, purple is not a moral property. It is an aesthetic one. Moral judgments operate in the *relational* sphere and take an agent’s behavior and conduct vis à vis other agents as their object. Purple is not even an attribute such as intelligence or health where, arguably, one can confidently make the evaluation that a life that contains more intelligence/health is superior to one that contains less. The most one could say is “I dislike the way purple people look; it is a strange choice.”

Actually, the chosen/un-chosen dichotomy does not capture everything. Are we irrational to get our feelings hurt about un-chosen features while shaking off criticism of enhancements/augmentations we have chosen? Why should it bother me to have my crooked nose made fun of, or to be ridiculed for being fat? I didn’t choose these. On the other hand, I am a bodybuilder. I joke about receiving attention from gay men, but it is often said about and among bodybuilders that we build our muscles for the attention of other men, not women. Nine times out of ten, it is another guy who is impressed, remarks, or asks to feel the biceps. Some women are repulsed at large muscles and declare that I am “too big!” I shrug this off because bodybuilding is a lifestyle I have chosen—I was not born with freakish muscles. Yet arguably, perhaps I should be terribly offended since not only has the woman insulted my appearance (justifiably expressing her brute, amoral preference), but she has belittled an activity I value and am passionately committed to.

There are some lessons here for the debate over enhancement. Robert Nozick (1974) points out that self-esteem is based on differentiating characteristics. We don’t take pride in our common abilities—as a human animal, I can read, write, do arithmetic—isn’t this wonderful?! Actually, we take these capacities for granted. We all can do these things, so we don’t take pride in them. In a sense, this is perverse, even irrational, because, if these capacities are intrinsically valuable, we are objectively better off for having them and should be pleased. Consider a discus-throwing competition. The winner beats his opponents by the slimmest of margins—a mere fraction of a centimeter. What is more, all competitors are pathetically weak and manage to throw the discus a puny distance. Why be pleased at having won? Not a single athlete in the event exhibited any excellence on an absolute scale. Thus, one way to diminish envy is to focus on activities where it is inappropriate to judge oneself comparatively. I want to be the most beneficent, wisest, holiest, person alive. What? While it makes sense to want to be beneficent, wise, etc, it is self-defeating to turn this into a competition. I want to be the least jealous person in the world. But, when someone else exhibits even less jealousy, I am jealous of that!

The worry is that if self-worth is based on comparisons, we can all become as wise as Aristotle, as musically talented as Beethoven, etc, but still feel no greater sense of self-esteem than we do from our shared abilities such as being able to use language, or possessing hands that are able to grasp objects. There are two ways to create a society where self-esteem is not sabotaged by envy and positional goods “arms races.” The two solutions are 1) to focus on the absolute, rather than relative components of valuable activities. 2) to socially empower individuals to engage in a huge variety of activities. With more dimensions along which to compare one another, an individual has a better chance to find “dimensions that *some* others think important, along which he does reasonably well, and so to make a nonidiosyncratic favorable estimate of himself” (Nozick 1974, 246). The intensity of envy diminishes as the number of differentiating dimensions is expanded.

### **Thinking About Enhancement**

In his discussion of Germinal Choice Technologies (GCT), Gregory Stock mentions a fascinating scenario: in a “hands-off” society, deference to parental choice might mean that some deaf couples would use embryo selection to guarantee that their child were deaf. The child would more easily assimilate into

the parent's culture and there is no physical harm involved—a healthy child is not injured; the quality of deafness is simply selected. This scenario is probably very alarming to most people, yet Stock claims that one third of American obstetricians say they would consider offering a test that would enable this possibility (Stock 2002, 168). Fortunately, it is possible to clarify our thinking by formulating and articulating an ethical principle that should govern these types of decisions. One attempt at such an axiom is: *No person may make a choice for another person unless there is a moral obligation to do so.* This formula has the advantage of parsimony, yet it is problematic nonetheless. Aside from the objection that there might not be universal agreement about what constitutes a compelling “moral obligation” in a given circumstance, such an inflexible principle would proscribe many actions that are clearly not morally necessary, but are nevertheless extremely convenient.

For example, through the use of GCT it will eventually be possible to ensure that children are born with beautiful, straight teeth. Yet it seems rather silly to assert an unborn child's “right to straight teeth.” Apart from concerns about health problems caused by an uneven bite, etc, there is no moral obligation to provide everyone with cosmetic orthodontic procedures. Of course, teeth can become a marker for class distinctions, even a source of international ridicule (the poor British!) endowing the issue with social/moral importance. But the primary concern is with aesthetics—straight teeth are not a fundamental necessity for living a fulfilling life. However, it is not reasonable to object to having been given the gene for straight teeth. Using GCT would eliminate the pain, inconvenience, and cost of having braces. If having straight teeth is a morally acceptable goal, then using GCT to obtain it is acceptable (if one accepts that the technology itself is not intrinsically wrong). Furthermore, the interests of parent and child are perfectly aligned, and the outcome is convenient for both. If there is sufficient demand for crooked teeth, future orthodontists can create a new industry to safely rearrange patients' teeth in a jagged pattern. The practice will be the exact reverse of how it is today. Morally, it would not matter if we were all born with straight teeth by default and then had to have them altered to suit our personal tastes. The same goes for baldness—current technology, shaving, easily allows us to achieve this result. But hair regrowth is still quite primitive, and a wig is not a satisfactory replacement. Thus, altering the genes for male pattern baldness doesn't deprive a child in the least; he can always shave.

Teeth are morally irrelevant in a way that hearing is not. A child that could hear and wanted to better understand its deaf parents could choose to simulate deafness or even become deaf through a surgical procedure. Currently we do not have the technology to give the deaf the ability to hear. In the deafness scenario, the parent's interest conflicts with the unborn child's. A child with hearing can be taught sign language at the same time it learns to speak. It is impermissible to select deafness on the basis that deaf children will be more convenient for deaf parents. Even if the deaf child “would never know what it was missing” in that, having had no experience with music it could not miss hearing it, we know the joys of music and hearing. There is a concrete obligation to ensure that a child has the ability to hear.

Now consider the case of gender selection. Modern western societies strive for gender equality. In theory, we are already committed to the principle that both sexes are morally equal and deserve equal ethical treatment. In practice, there are still many instances of discrimination. However, the key point is that there is no moral reason to choose a boy over a girl or vice versa. Can a child be harmed (in the moral sense) if its parents choose its gender? No. We have already concluded that gender is morally irrelevant. A father might feel that he could be a better father if his child were a son—he is male, he remembers growing up as a boy, and he believes he is thus better equipped to guide a son from childhood to adulthood than a daughter. This belief might be incorrect, but is it morally wrong? A parent should be able to give love to a child regardless of the child's sex. Unfortunately, this is not always the case.

But in a world where parents pick gender, there is no longer even the possibility of a child being less loved because one or both parents (immorally) wanted one of the opposite sex. If everyone is truly committed to the principle of gender equality, parents should be able to choose their child's gender as a



matter of taste. Presumably, different preferences should balance out—on the whole, the male/female ratio should not be grossly disproportional. In fact, if there is no real reason to prefer one sex to another, then parents might choose based on the ratio of eligible males/females in the region or country. If culture placed undue emphasis on having a child of a particular gender, then using GCT would exacerbate the trend. The cultural norm and its consequences, not the use of the technology in adherence to that norm, would be the morally relevant issue. In sum, the axiom that governs the use of GCT could be worded as follows: *No person may make a choice for another person unless there is a moral obligation to do so or unless the choice is morally irrelevant.* By irrelevant, I mean that 1) both the parent and the child's interests are aligned—straight teeth or 2) the parents fulfil their interests and the child has no interest at stake—gender.

It is important to remember that GCT is just one method of achieving a goal. Contact lenses already enable us to correct faulty vision, telescopes allow us to see far away objects, microscopes let us view small objects, etc. In these cases our vision is augmented through other technologies. The question becomes whether genetic enhancement is intrinsically more problematic than “environmental” enhancement. Analysis suggests that it is not. Some worry that genetic means of achieving the end of enhancement may somehow exacerbate old social and ethical problems even if they do not create uniquely new ones. But it should be quite possible to prevent genetic enhancement from running amuck. There should be a general presumption in favor of parental autonomy, but restrictions are required in certain cases, specifically, when the enhancements are “self-defeating and pose threats to public goods,” or if “they raise objections of fairness” (Buchanan et al. 2001, 204).

In the case of traits that confer competitive advantage but are not intrinsically valuable, it would make sense to restrict the ability to enhance them if enhancement is likely to impose a cost on society. For example, Sport Utility Vehicles became very popular in the 1990's despite the fact that they waste gas, are hard to park, flip easily, and kill passengers in smaller cars when there is a collision. One can imagine that height, a trait with little intrinsic value, might become “trendy” in a similar way. Hordes of brutish, towering 5<sup>th</sup> graders would take up huge amounts of space, require lots of food, and be difficult to clothe. By prohibiting enhancement of height beyond a maximum limit, costly behavior can be avoided. In the case of a trait such as memory, which clearly has more intrinsic value, it is more difficult. Considerations of distributive justice must be balanced against denying enhancement to those who do have the economic means of achieving it. Is it fair to prohibit those who can afford enhancements from accessing them, simply to prevent envy on the part of those who are too poor? This is the “levelling down” problem, the dark side of egalitarianism. If anything, these considerations indicate it is time to start working out a comprehensive financial plan for universal enhancement access.

The claim that individuals must not use genetic enhancement when it is complicit with a harmful norm is troubling. As a classmate of mine once put it, “it is for us to evolve away from our prejudices, not to adapt technology to satiate them.” If an individual is suffering and has the opportunity to relieve that suffering, why should she be compelled to continue to suffer simply to make a stand against prejudice? It is not clear that the burden of overturning harmful societal practices should fall on any one individual. One solution is to say that if an individual's actions in one area (enhancement of a trait) endorse unjust norms, one is obligated to fight that system elsewhere. However, as long as the individual is free to decide whether or not to alter the trait in question, it is hard to accept the proposition that a moral wrong occurs when s/he chooses to alleviate his/her suffering, or simply does what is most convenient. Presumably, if society is discriminating unjustly, enough people who possess, and *value* the trait being discriminated against, will protest the practice rather than use technology to escape the situation.

Genetic enhancement technologies create no fundamentally new problems. If one objects to designing babies because it exacerbates existing problems—soccer moms, forced piano lessons, etc, then why not pass a law against piano lessons? Such a law would be unworkable and paternalistic. In the words of the

poet Oliver Goldsmith, “How small of all, the human heart can endure, that part of which laws or kings can cause or cure” (Goldsmith 2001). Is it alright to ban new techniques simply because they are *more effective* at bringing about a bad result than already existing practices? Enhancement technologies have great potential for good, as well as for abuse. With careful consideration, a general presumption of liberty, and restrictions where there is good reason, society will be no worse off than it is now. More importantly, individuals will in all likelihood be better off.

## Conclusion

This essay has largely ignored the most important philosophical question raised by enhancement technology—the idea of the intrinsic value of various traits, capabilities, and modes of being. A satisfactory account of the ethics of enhancement will explain and defend a comprehensive theory of well-being. This substantial undertaking must await another occasion, but briefly, such a theory must show how our evaluative arguments relate to objective properties and features of reality. Leon Kass takes ignorant revulsion and dresses it up as the “wisdom of repugnance” (Kass 1997). Although he does not, it is quite possible to make substantial rational arguments against incest, cannibalism, and certain other taboos. For incest, the key moral feature is that it destroys social relationships. One cannot stand simultaneously in the relationship of mother/lover, son/spouse, etc. Yes, the taboo initially developed because it is harmful for close relatives to mate. But we can understand that the biological aspects of incest are less significant than the relational by considering the following scenario. Which is worse—two biologically related individuals, separated at birth meet later in life and, ignorant of their kinship, have sex (birth control utilized so there is no problem of harm to offspring)? Or, a single parent adopts a child, rears it to adulthood, and becomes sexually involved with it? To follow up on this thought experiment, we might search the case literature for empirical evidence. What documented examples of non-biological incest are there, and what were the consequences for the relationships of the involved parties? In this way, we can discover valid reasons for our “repugnance” or, if reasons are not forthcoming, determine that there are grounds for rejecting our initial intuition.

In exceptional cases, it may be possible to establish certain conceptual truths that rule out a given course of action *a priori*. For example, it is absurd to order a person to be spontaneous since the attempt to comply will be self-defeating. Likewise, arguably one cannot be heroic, if one performs an action primarily to obtain such recognition. Finally, it seems impossible to command authentic love, since such affection could not be credible if compelled. These examples attest to the fact that there are states that are essentially byproducts. However, these are the exception, not the rule, and the burden of proof for a conceptual truth is very high. Some opponents of technology misuse this type of argument as follows: to have the virtue of courage means acting not in the absence of fear, but in spite of it. Therefore, a soldier in battle cannot use a drug to quell his anxiety because this type of technological means changes the end achieved. He does not achieve courage, but a drug-mediated calm. This reasoning is wrong-headed and dangerous. What matters in this case is the result—the optimal state of arousal for the soldier to perform at peak capacity. Prior to battle, he rationally assesses his own ability—he knows that in battle he suffers from paralyzing panic that will impair him and jeopardize the lives of his comrades. It would be immoral not to use a beta-blocker to enhance his performance—this is a case of rational character planning. The drug is used to obtain the optimal arousal level—total fearlessness could lead to recklessness and needless casualties. In the calm before battle, the soldier still displays courage by choosing to use a mechanism that lets him overcome arbitrary physiological limitations that otherwise threaten the mission he is morally committed to.

Michael Sandel (2007) suggests there is some intrinsic contradiction in engineering our offspring because it makes it impossible for us to accept their existence as a gift. This “giftedness” objection does not meet the standards necessary to establish that there is an intrinsic moral objection here. On the basis of this argument Sandel makes a case “against perfection.” Taken literally, this argument is absurd—there can be no true argument against perfection if such a state is attainable. It is almost as silly as making an

argument against “the triangle,” on the basis that Euclidian geometry is not actually an accurate description of reality. The word “enhancement” already entails a positive evaluation—without an argument of what elements make up an individual’s well-being, we can’t debate whether a given augmentation advances or diminishes morally significant qualities such as agency. Sandel offers no detailed theory of intrinsic value that would explain why consciously designing one’s child necessarily corrupts the parent-child relationships. Instead, he cites existing trends—competitive, controlling parents traumatize their children—and makes the unjustified pessimistic induction that enhancement technology will exacerbate this. His argument is purely empirical, projecting into the future based on current behaviors. A philosopher should know better than to fall into the classic problem of induction.

Worries about economic injustice or “homogenization” also ignore the evidence of what is likely. If we survive, the future will be an age of abundance, where customization and niches, not mass culture, is the rule. This trend has been extensively documented by Chris Anderson’s (2006) study of the “Long Tail,” the phenomenon that when tastes are not filtered through the lens of scarcity (physical shelf space and distribution bottlenecks), individuals have a near infinite demand for varied, specialized, songs, films, books, and other types of culture. What is true of culture is true of physical expression (just look at fashion). If anything, the opposite worry—that post-humans will be so morphologically diverse as to fragment into different mutually unintelligible subcultures—is concerning.

Given the higher stakes, new technological possibilities arguably will prompt greater reflection and more responsible behavior. Certainly, they offer us the ability to augment our own moral failings, increase our empathy, and correct our character flaws through rational character planning. Furthermore, it is unlikely that there will be a significant period of time during which parents are called on to make decisions for future generations with germ line engineering. Other technologies allowing individuals to radically alter themselves—implants and nanotech—will quickly overtake what can be done with biology alone. I have observed that critics of cosmetic surgery tend to fall into two camps: very beautiful women who claim to be concerned about social coercion but who, consciously or not, perhaps harbour guilt at their “unearned” beauty while simultaneously being threatened at the possibility of losing their positional advantage; or, very ugly women who adopt a “sour grapes” mentality. Deep down, both groups know that beauty matters a lot, but rather than acknowledge this and support individual freedom, they oppose technology that would make beauty universally attainable.

Enemies of enhancement often fall back on an argument of last resort—“meaninglessness.” Somehow suffering or struggle is required for meaning. If a world of beautiful, brilliant artists, poets, philosophers and scientists exploring the realm of *mind* is devoid of meaning, simply adding ugliness, spite, disease, frailty, problems of physical and economic survival, and arbitrary limits to ability will not make it meaningful. It is easy to make something hard, it is hard to make things easy. If challenge is lacking, one can always “tie one hand behind one’s back.” The point of technology is to constantly expand our capabilities. “Freedom is not an unchangeable space to be conquered once and for all: it is a permanent process of new and ever new liberations” (Amery 1999, 125).

It is much easier for bio-conservatives to fear-monger from their pulpits than to offer a constructive vision. I am reminded of a quote by an intellectual hero of mine, Karl Popper. Throughout history, men have feared change, especially the kind of dynamism and uncertainty that characterize Popper’s Open Society.

Unwilling and unable to help mankind along their difficult path into an unknown future which they have to create for themselves, some of the ‘educated’ tried to make them turn back into the past. Incapable of leading a new way, they could only make themselves leaders of the *perennial revolt against freedom*. It became necessary for them to assert their superiority... as they were



misanthropists and misologists—incapable of that simple and ordinary generosity which inspires faith in men, and faith in human reason and freedom (Popper 2003, 201).

## References

Amery, John. 1999 *On Suicide*. Indiana University Press.

Anderson, C. 2006. *The long tail: How endless choice is creating unlimited demand*. London: Random House Business Books.

Buchanan, Allen. Brock, D., Daniles, N. & Wikler, D. 2001. *From Chance to Choice: Genetics & Justice*. Cambridge: Cambridge University Press.

Goldsmith, O. 2001. The Traveler. *English Poetry II: From Collins to Fitzgerald*. Vol. XLI. The Harvard Classics. New York: P.F. Collier and Son, 1909-14. Online Edition: <http://www.bartleby.com/41/311.html>

Kass, L. R. 1997. The Wisdom of Repugnance. *New Republic*, Vol. 216 Issue 22 (June 2).

Nozick, R. 1974. *Anarchy, State, and Utopia*, Basic Books, New York.

Popper, K. 2003. *The Open Society and its Enemies*. Volume One: *The Spell of Plato*. London: Routledge.

Sandel, M. 2007. *The case against perfection: Ethics in the age of genetic engineering*. Cambridge, MA: The Belknap Press of Harvard University Press.

Stock, G. 2002. *Redesigning Humans: Our Inevitable Genetic Future*. London: Houghton Mifflin.

Summers, L. 2005. Harvard Speech. <http://www.president.harvard.edu/speeches/2005/nber.html>