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Against Unrestricted Human Enhancement

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Introduction

The defining debate in this new century will be about technology and human enhancement, according to many across the political spectrum.[1] Our ability to use science to enhance our bodies and minds – as opposed to its application for therapeutic purposes – is one of the most personal and therefore passionate issues in an era where emerging technologies seduce us with new and fantastic possibilities for our future. But in the process, we are forced to rethink what it means to be human or, essentially, our own identity. For some, technology holds the promise of making us superhuman; for others, it offers a darker path toward becoming Frankenstein's monster.

This paper will look at a growing chorus of calls for human enhancement to be embraced and unrestricted. Specifically, we will critically examine recent "pro-enhancement" arguments – articulated in *More Than Human* (2005) by Ramez Naam,[2] as one of the most visible works on the subject today – and conclude that they ultimately need to be strengthened, if they are to be convincing.

Our overarching motive here is not so much that we are against human enhancement technologies; that seems to be too premature a conclusion given the state of research and debate, and such technologies may be inevitable anyway. However, we believe that a skeptical eye should be applied to claims that there should be *no* restrictions on any particular action. Even our most cherished human rights are bounded by reason or societal norms, for whatever they are worth. For instance, our right to free speech still does not allow us to yell "Fire!" in a crowded theater or to slander others. Our right to fall in love and to make love with whom we want does not extend to children. And for all the talk about the virtues of a "free market" or "free trade", the invisible hand of our economy is still occasionally slapped by anti-trust lawsuits, which would not be an issue if the market were truly free. So even if human enhancement seems to be a reasonable practice and even a right, restrictions may still be required to mitigate undesirable

circumstances or unintended consequences – which would be consistent with how functioning societies treat other liberties, values and rights.

But first, we should lay out a few real and hypothetical scenarios in order to be clear on what we mean by "human enhancement." Beyond steroid use to become stronger and plastic surgery to become more attractive, people today also use drugs to boost creativity, attentiveness, perception, memory, mood, and so on. Some enhancements today may seem gratuitous to others, such as attempting to physically transform into a lizard by tattooing scales all over one's body and forking one's tongue or into a cat by implanting whiskers, sharpening teeth and clipping one's ears. (The latter enhancements, of course, raise the question whether "enhancement" is the right word to use in the debate in the first place, as opposed to simply "engineering" or a more neutral term that does not connote improvement.)

In the future, technology might give us implants that enable us to see in the dark, or in currently non-visible spectrums such as infrared. As artificial intelligence advances, nano-sized computers might be imbedded into our bodies in order to help process more information faster, even to the point where man and machine become indistinguishable. And perhaps someone would want to have a prehensile tail or flippers implanted to swim better or for whatever reason.

What we do not mean by "human enhancement" is the mere use of tools, such as a hammer or Microsoft Word, to aid human activities, or "natural" improvements of diet and exercise – though, as we shall discuss later, agreeing on a definition may not be a simple matter. Further, we must distinguish the concept from therapeutic applications, such as using steroids to treat any number of medical conditions, which we take to be unobjectionable for the purposes of this paper.

I

In the introductory chapter of *More Than Human*, Naam offers four distinct arguments to defend the pro-enhancement position, which clears the path for the rest of his book: first, there are pragmatic reasons for embracing enhancement; second, regulation will not work anyway; third, respect for our autonomy prohibits restrictions; and, fourth, that the desire to enhance is inherently human and therefore must be respected.

In his first argument, Naam points out that "scientists cannot draw a clear line between healing and enhancing."[3] The implied conclusion here is that, if no principled distinction can be made between two concepts, it is irrational to afford them different moral status. So, since there are no restrictions on therapy, in that we have a right to medical aid, there also should be no restrictions on human enhancement, i.e., using the same medical devices or procedures to improve our already-healthy bodies. In other words, there is no significant or moral difference between therapy and enhancement.

There are several problems with such a claim, including the following two. The first problem can be illustrated by the famous philosophical puzzle called "The Paradox of the Heap": given a heap of sand with N number of grains of sand, if we remove one grain of sand, we are still left with a heap of sand (that now only has N-1 grains of sand). If we remove one more grain, we are again left with a heap of sand (that now has N-2 grains). If we extend this line of reasoning and continue to remove grains of sand, we see that there is no clear point where we can definitely say that on side A, here is a heap of sand, but on the side B, this is less than a heap. In other words, there is no clear distinction between a heap of sand and a less-than-a-heap or even no sand at all. However, the wrong conclusion to draw here is that there is no difference between them; so likewise, it would be fallacious to conclude that there is no difference between therapy and enhancement. It may still be the case that there is no moral difference between the two, but we cannot arrive at it through the argument that there is no clear defining line.

Second, there likely are principled distinctions that can be made between enhancement and therapy.[4] For example, Norm Daniels has argued for the use of "quasi-statistical concepts of 'normality' to argue that any intervention designed to restore or preserve a species-typical level of functioning for an individual should count as [therapy]"[5] and the rest as enhancement. Alternatively, Eric Juengst has proposed that therapies aim at pathologies which compromise health, whereas enhancements aim at improvements that are not health-related.[6]

Another pragmatic reason Naam gives is that "we cannot stop research into enhancing ourselves without also halting research focused on healing the sick and injured."[7] However, this claim seems to miss the point: anti-enhancement advocates can simply counter that it is not the research they want stopped or regulated, but rather the use of that research or its products for enhancement. For instance, we may want to ban steroids from sports, but no one is calling for an outright ban on all steroids research, much of which serves healing purposes.

Naam also puts the burden of proof on the anti-enhancement side to show that regulation of enhancement is needed, instead of offering an argument that enhancement is harmless to the person or society and therefore does not need to be regulated.[8] But it is unclear here why we should abandon the principle of erring on the side of caution, particularly where human health may be at stake as well as other societal impacts. Further, both sides have already identified a list of benefits or harms that might arise from unregulated human enhancement. The problem now is to evaluate these benefits and harms against each other (e.g., increased longevity versus overpopulation), also factoring in any relevant human rights. If neither side is able to convincingly show that benefits outweigh harms, or vice versa, then burden of proof seems to be a non-issue.

II

In his second argument, Naam compares a ban on enhancement to the U.S. "War on Drugs", citing its ineffectiveness as well as externalities such as artificially high prices and increased safety risks (e.g., users having to share needles because they cannot obtain new or clean ones) for those who will use drugs anyway.[9] If people are as avidly driven to enhancement as they are to drugs, then this admittedly may be the case. But is that a good enough reason to not even try to contain a problem, whether it is drugs, prostitution, gambling, or whatever? While such laws may be paternalistic, they reflect the majority consensus that a significant number of people cannot act responsibly in these activities and need to be protected from themselves and from inevitably harming others. Even many liberals are not categorically opposed to these regulations and may see the rationale of "greater good" behind similar regulation of enhancement.

Further, that we are unable to totally stop an activity does not seem to be reason at all against prohibiting that activity. If it were, then we would not have any laws against murder, speeding, "illegal" immigration – in fact, it is unclear what laws we would have left. Laws exist precisely because some people inescapably have tendencies to the opposite of what is desired by society or government. Again, this is not to say that human enhancement should be prohibited, only that a stronger and more compelling argument is needed.

One objection to our argument here is that if human enhancement is regulated, then that would merely make it more expensive to receive those enhancements.[10] Enhancements would not really be curtailed, because those who can afford to travel to other countries where there are no such restrictions would do so, much like American citizens today travel on "medical or cosmetic surgery vacations" to undergo procedures that are either too expensive in the U.S. or denied to them.

However, this objection is not really an argument against restrictions, but rather an argument for *global* restrictions. Its real complaint is that we cannot simultaneously implement human enhancement restrictions on a global scale, which is probably true. But even if it is construed to be a pro-enhancement argument, it does not seem to be sound. For instance, it would not work if applied to, say, pedophilia: it cannot be convincingly argued that there should not be any restrictions in the U.S. against pedophilia, because that would only lead to "pedophile vacations" for the wealthy to other countries where restrictions or enforcement are more lax.

III

In his third argument, Naam ties human enhancement to the debate over human freedom: "Should individuals and families have the right to alter their own minds and bodies, or should that power be held by the state? In a democratic society, it's every man and woman who should determine such things, not the state...Governments are instituted to secure individual rights, not to restrict them."[11]

Besides politicizing a debate that need not be political, Naam's argument here (as well as the preceding one) assumes libertarianism to be the correct or predominant political philosophy, which is far from the case judging from annual election results in the US or any other country. Both liberals and conservatives, who collectively make up the bulk of public opinion, can see that the state has a broader role in creating a functioning, orderly society. This necessarily entails reasonable limits to whatever natural rights we have and also implies new responsibilities, such as not abusing one's right to free speech. Accordingly, rights are not inconsistent with regulation, so even if people do have the right to alter their own minds and bodies, government may still play a useful role here.

And while libertarianism may have its merits and a sense of intuitiveness to some, a democratic society is not compelled to endorse laissez-faire political philosophy and the minimal state, as some political philosophers have suggested.[12] Nor would reasonable people necessarily want unrestricted freedom, e.g., no restrictions or background checks for gun ownership. Even in a democracy as liberal as ours in the United States, we understand the value of regulations as a way to enhance our freedom. Again, our economic system is not truly a "free market" – though we advocate freedom in general, regulations exist not only to protect our rights, but also to create an orderly process that greases the economic wheel, accelerating both innovations and transactions. As a simpler example, by agreeing to traffic laws, we actually increase our freedom on the road: for instance, we can drive much faster, because we can reasonably anticipate what others might do, e.g., stay on the right side of the road, drive above a minimum speed limit, not make erratic turns, and so on.

IV

Finally, Naam argues that people have been enhancing themselves from the start: "Far from being unnatural, the drive to alter and improve on ourselves is a fundamental part of who we humans are. As a species we've always looked for ways to be faster, stronger, and smarter and to live longer."[13] This seems to be an accurate observation, but it is an argumentative leap from this fact about the world, which is descriptive, to a moral conclusion about the world, which is normative.

Or, as the philosophical saying goes, we cannot derive "ought" from "is," meaning just because something is a certain way doesn't mean it should be that way or must continue to be that way. For instance, would the fact that we have engaged in wars – or slavery, or intolerance – across the entire history of civilization imply that we should continue with those activities? Clearly, the answer is no. If we cannot agree that war or slavery is repugnant or at least undesirable and should be avoided – Nietzsche aside – then any "ethics" of human enhancement technologies would seem to have no hope.

Further, even if it is obvious to the pro-enhancement camp now that human enhancement technologies should be unrestricted, this might not always be the case and is therefore little evidence of how things should be or will be. As an analogy, the overwhelming majority of the world's population people has been indoctrinated since the time we can eat solid food that meat is one of our core food groups, should we be lucky to have it; but it is conceivable, given the traction by animal rights activists and scholars, that farming animals may one day be regarded as barbaric and morally backwards, viewed with the same disdain as slavery is now, especially if an alternative (and equally tasty) protein source is created. If, say, meat can be created without the animal, as some scientists are now doing or in the future with perhaps advanced nanotechnology, then it would be difficult to justify the unnecessary killing of animals, even if we do create extra happiness in the world by bringing them into existence.[14]

More seriously, this argument seems to turn on an overly-broad definition of "human enhancement," such that it includes the use of tools, diet, exercise, and so on – or what we would intuitively call "natural" improvement. An objection to Naam's first argument also applies here: just because we cannot clearly delineate between enhancement and therapy or tool-use does not mean there is no line between them. We understand that steroid use by baseball players is a case of human enhancement; we also understand that using a rock to crack open a clam is not. Still, the fact that we have not arrived at a clear definition of "human enhancement" should not prevent us from using intuitive distinctions to meaningfully discuss the issue.

V

An objection to the entire preceding discussion is that we have made it relatively simple to defeat the considered pro-enhancement arguments, so much so that some have complained that we are attacking a "straw man", i.e., misrepresenting the position in such a way that it is easy to refute.[15] Our reply is that the pro-enhancement arguments we discuss above are in fact complete and actual arguments laid out in Naam's book, and though he admittedly is not an ethicist and need not be held to the standard of careful philosophical thinking, the same arguments continue to echo in the human enhancement debate as well as unrelated political debates; therefore, it is important to critically evaluate these persistent and popular arguments.

If it seemed simple for us to defeat Naam's arguments, that speaks more to their strength than to our strategy. Nevertheless, the human enhancement debate does not end here. Other arguments not articulated by Naam deserve consideration in separate papers, and a critical spotlight should also continue to be turned on anti-enhancement positions as well. Our point here is not that human enhancement should be restricted. It is simply that current arguments need to be more compelling and philosophically rigorous, if the pro-enhancement side is to be successful.

There is admittedly a strong intuition driving the pro-enhancement movement, but it needs to be articulated more fully, resulting in an argument that is perhaps something like the following:

> Who we are now seems to be a product of nature and nurture, most of which is beyond our control. So, if this genetic-environmental lottery is truly random, then why should we be constrained to its results? After all, we've never agreed to such a process in the first place. Why not enhance ourselves to be on par with the capabilities of others? And if that is morally permissible, then why not go a little – or a lot – beyond the capabilities of others?

As suggested in the above analysis, one of the first steps in discussing human enhancement is to arrive at a better definition of what it is, perhaps by adopting that used by Daniels or Juengst, though these are still tough issues. For instance, does it matter whether enhancements are worn outside our bodies as opposed to being implanted? Why should carrying around a Pocket PC® or

binoculars be acceptable, but having a computer or a "bionic eye" implanted in our bodies be subject to possible regulation – what is the moral difference between the two?

Further, there are societal and ethical implications that also need to be considered, apart from those already mentioned. Before we too quickly dismiss the idea of "human dignity" as romanticized and outdated, we need to give it full consideration and ask whether that concept would suffer if human enhancement were unrestricted. Is there an obligation to enhance our children, or will parents feel pressure to do so? Might there be an "Enhancement Divide," similar to the Digital Divide, which significantly disadvantages those without? If some people can interact with the world in ways that are unimaginable to others (such as echolocation or seeing in infrared), will that create a further "Communication Divide" such that people no longer share the same basic experiences in order to communicate with each other?

In this paper, we have tried to detail some of the challenges that society will need to address as human enhancement technologies become viable. This will not be in the distant future, but rather sooner than many of us might may expect. It seems to us that the most realistic outcome of a debate about human enhancement will be neither unrestricted freedom nor total prohibition: the issue is likely much more complex than hinging on the single issue of personal autonomy or human dignity. Rather, like many other political and social debates, we may find some commonsense somewhere in the middle.

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Notes

[1] For instance, see keynote remarks by Ron Bailey as well as William Hurlbut at the "Human Enhancement Technologies and Human Rights" conference at Stanford University on May 26, 2006.
[2] Ramez Naam, *More Than Human* (Broadway Books, New York: 2005). See also www.morethanhuman.org.
[3] Naam (2005), p.5.
[4] For more discussion of these ideas, see Fritz Allhoff, "Germ-Line Genetic Enhancement and Rawlsian Primary Goods," *Kennedy Institute of Ethics Journal* 15.1 (2005): 43-60, republished in this issue of the *Journal of Evolution and Technology*.
[5] Norm Daniels, "Growth Hormone Therapy for Short Stature: Can We Support the Treatment/Enhancement Distinction?" *Growth: Genetics & Hormones* 8.S1 (1992): 46-8.
[6] Eric Juengst, "Can Enhancement Be Distinguished from Prevention in Genetic Medicine?" *Journal of Medicine and Philosophy* 22 (1997): 125-42.
[7] Naam (2005), p.5.
[8] Naam (2005), p.5.
[9] Naam (2005), p.6.
[10] Jacob Heller, "Human Enhancement and Nanotechnology: A Foresight Nanotech Institute Policy Issues Brief" (2006), Foresight Nanotech Institute. Accessed on July 28, 2006: http://www.foresight.org/policy/brief2.html
[11] Naam (2005), p.6-9.
[12] See, for example, Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974).

[13] Naam (2005), p.9
[14] Morris A. Benjaminson, *et al.*, "*In vitro* edible muscle protein production system (mpps): stage 1, fish," *Acta Astronautica* 51 (2002): 879-889.
[15] From audience feedback – specifically from David Meeler, Winthrop University, South Carolina – to this paper's presentation at the "Human Enhancement Technologies and Human Rights" conference at Stanford University on May 28, 2006.