



**Saving Humanity?:
*Counter-arguing Posthuman Enhancement***

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"We have good reason, on the basis of what is happening in such fields as computer science, biotechnology and...psychopharmacology, to suspect that *Homo Sapiens* is going to exit from the 21st century a considerably different animal from what it was in the 20th." (Anderson 2003, 536)

Abstract

To its advocates, posthuman enhancement represents the pinnacle of what contemporary humanist scientific and technological endeavour can achieve; to its detractors, it has come to represent the fullest realisation of human technological folly. But while it is perhaps unsurprising that such a contentious, emotive and seemingly bi-polar issue has resulted in a scramble to arms, what is a surprise is the frequency of secular humanists to advance arguments based on outmoded and contradictory thinking. To illustrate this point, I have outlined some essential elements of three contemporary counterarguments to posthuman enhancement, noting their obvious pitfalls. I conclude by suggesting that if those who advocate posthuman enhancement are to be engaged successfully then new perspectives and arguments are necessary.

Introduction

The term 'posthuman' has been used as a broad term for a new kind of person of unprecedented physical, intellectual and psychological capacity. The posthuman – it is suggested – is likely to result from the application of present and future technologies, including but not limited to genetic engineering, transgenic technology, bionic implants, brain/computer interface etc. At this point it should be noted that while there is, at present, a need for an examination of certain defining terms such as: 'posthumanism', 'transhumanism', 'bio-libertarianism', 'techo-progressivism' etc.; and open debate as to whether those who advocate technological development towards (the potentially idealised conception of) 'the posthuman', are similar or substantively different from those who simply advocate 'radical' technological solutions to human physiological issues. I hope to sidestep this issue for the time being by referring to those who advocate or oppose 'posthuman

enhancement': a general term for the types of technologies associated with the development towards the posthuman.

Unfortunately most academic debate on posthuman enhancement tends to centre on first-order bioethical issues surrounding the current application of such technology. One possible reason for this is the issue of technical conceivability: for many of the posthuman enhancement issues of today were clearly inconceivable – outside of the realms of science-fiction – only a few years ago. This has resulted in a seeming *ex post facto* realisation of true potential of enhancement technology, followed by a retroactive (and possibly reactionary) examination and evaluation of procedures that have already been developed. But while these dilemmas may help to provoke public engagement, from the perspective of ideological confrontation they are misdirected and ultimately superfluous exercises in frustration. For while they deal with the minutiae of specific issues and techniques, research will already be underway into technical loop-holes and alternative procedures, the likely result of which is the superseding of said technique and the redundancy of the debate. It being the case that "[t]he faster knowledge strides ahead and the more sophisticated the technologies become, the more difficult it will be to set boundaries on what the biological sciences are capable of doing, but should *not* do." (CAP 2000, 29)

This said the balance of academic work is gradually shifting and an ever increasing number of articles and texts are being written that transcend present biomedical debates and enter the wider theoretical arena of future direction, application and policy (although this is still usually restricted to the near future and specifically the area of reproductive biotechnology). But unfortunately in doing so, many – primarily those who are all too quick to draw lines in the sand – have seized on and attempted to modify outmoded arguments and pragmatic strategies as plausible counters to posthuman enhancement; literally dressing the providential and progressive in the clothes of the postmodern. The result has been accusations of duplicity, inconsistency and ambiguity.

Dignity

"This protracted discussion of human dignity is intended to answer the following question: What is it that we want to protect from any future advance in biotechnology? The answer is we want to protect the full range of our complex, evolved natures against attempts at self-modification." (Fukuyama 2002, 172)

One seemingly popular counterargument to posthuman enhancement is based on the belief that there are some essential, but obscure, characteristics of man that compose his all important essence – sometimes known as his 'human dignity' – and that technological intervention in human evolution would ultimately result in the corruption of this. Exponents of this theory argue that *Homo sapiens* without human dignity are no longer 'human'. As a result enhancement technologies are seen as not only having the power to corrupt human dignity, but also the ability to render the human extinct.

The unfortunate and acknowledged Achilles' heel of this standpoint is its potential to be undercut by arguments questioning the very existence of so-called 'human dignity'.

"Denial of the concept of human dignity – that is, of the idea that there is something unique about the human race that entitles every member of the species to a higher moral status than the rest of the natural world – leads us down a very perilous path." (Fukuyama 2002, 160)

Obviously debates concerning human dignity are far from new and the key issues they raise – are there qualitative differences between man and other animals?; is there one specific quality that *all* humans have, or are there a range of qualities, irregularly dispensed?; when does one gain these

qualities i.e. become human, is it at birth, conception etc. and can they be lost? (and probably most crucially of all); if these qualities exist, are they inherently good, bad or indifferent? (Ruse 1995, 377) – have been debated for centuries by many philosophical heavyweights. In saying this I do not want to infer that such debates have been universally concluded, in fact contemporary thinking generally centres around the dominant scientific and sociological positions that assert there is little material evidence for the existence of human dignity beyond that which is mere social construct, an artefact invented by humans to legitimise their exploitation of non-humans; and the dominant humanist and religious positions that assert the existence of human dignity is self evident, either as a result of evolutionary ontological leap, or by gift from God (or possibly even both re: the Pope's 1996 correction of the encyclical *Humani generis*, see Fukuyama 2002, 161).

Unfortunately for those who advocate the existence of human dignity from a standpoint *not* founded on a leap of faith, their position is constantly being confused and undermined by the rapidly escalating complexity of associated scientific inquiry; predominantly with regards study into the limits and abilities of man. Whereas in the past human and non-human animals appeared fundamentally different and the distinguishing characteristics associated with human dignity such as: consciousness, sentience, social hierarchy, intelligence, complex cerebral cortex, developed language etc. seemed indisputable identifiers; today such assumptions have been seriously brought into question, if not totally rejected. In addition the arbitrariness of so-called 'superior' characteristics have also been undermined, adding weight to the claims that they are little more than a 'speciesist' (Ryder 1970, Singer 1974) attempt by humanists to retain the Judeo-Christian 'Great Chain of Being' (having rejected theism) by creating biased ranks in which humans are placed at the top by design. And the striking technological advancements appertaining to the capabilities of computers and recent neurological research which no longer views human brains and computer CPU's as incommensurable may result in the eventual doom of the most espoused bastion of human supremacy, the ranking of 'most intelligent'. To make matters worse, the ever increasing demand for human egalitarianism has undermined the flexibility of humanists to adopt new hyper-specific uniqueness and superiority characteristics lest they be socially exclusive. An example of this would be the use of Fletcher's fifteen 'positive propositions' underpinning his concept of 'personhood' (1979 12-16) (these being: minimum intelligence, self-awareness, self-control, a sense of time, a sense of futurity, a sense of the past, the capability of relating to others, concern for others, communication, control of existence, curiosity, change and changeability, balance of rationality and feeling, idiosyncrasy and neocortical functioning). For not only would the use of such a notion exclude the likes of embryos and foetuses, it would also exclude infants, young children and the mentally infirm. In fact medical conditions such as dementia and Alzheimer's would result in the ability for someone to obtain personhood in ones youth and then lose the title before one dies.

With the above in mind, the final haven for many secularists advocating human dignity seems to be equivocation and ambiguity in the form of the indefinable. The pronouncement that the essential and defining characteristics of humanity; the basis for their anthropocentrism; and that which needs protecting is the *je ne sais quoi* that makes us human. So worried are some about keeping these qualities ultimately elusive (and thus leaving them open to unseen alteration) they dare not even attribute an epithet, lest it reveal itself, exposing it to direct opposition: "there remains some essential human quality underneath that is worth of a certain level of respect – call it Factor X." (Fukuyama 2002, 149)

Ironically the increasingly arbitrary, ambiguous and untenable nature of the human dignity argument has not stopped the likes of Fukuyama from updating it into a *de facto* defence against posthuman enhancement (although it is framed as a specific defence against reproductive biotechnology).

The crux of Fukuyama's revised human dignity argument is that:

"Factor X cannot be reduced to the possession of moral choice, or reason, or language, or sociability, or sentience, or emotions, or consciousness, or any other quality that has been put forward as a ground for human dignity. It is all of these qualities coming together in a *human whole* [my emphasis] that make up Factor X." (2002, 171)

The inclusion of the term 'human whole' is of primary importance because it spells out Fukuyama's belief that if something is to possess: 'Factor X', it not only has to have *all* the qualities of human dignity (and one gets the impression such a list is open to constant revision and could become inexhaustible if necessary); and has to be human by necessity (the customary *ad hoc* ruling-out of non-humans); but also it has to be a specific type of human – a 'human whole'. But what is a human whole? Fukuyama states that: "what gives us dignity and a moral status higher than that of other living creatures is related to the fact that we are complex wholes rather than the sum of simple parts" (2002, 171) and then marries this holistic approach with the belief that:

"If Factor X is related to our very complexity and the complex interactions of uniquely human characteristics like moral choice, reason and a broad emotional gamut, it is reasonable to ask how and why biotechnology would seem to make us less complex. The answer lies in the constant pressure that exists to reduce the ends of biomedicine to utilitarian ones – that is, the attempt to reduce a complex diversity of natural ends and purposes to just a few simple categories like pain and pleasure, or autonomy." (2002, 172)

The inference here is that soon the potential will exist (if it does not already) to 'create' a posthuman baby which lacks the complexity to be a human whole and thus deficient in – that which is to be protected – its Factor X.

"For this will be the constant trade-off that biotechnology will pose: we can cure this disease, or prolong this person's life, or make this child more tractable, at the expense of some ineffable human quality like genius, or ambition, or sheer diversity." (2002, 172)

Although developed with reproductive biotechnology in mind, Fukuyama's modified use of the human dignity defence seems equally applicable as a counter to most forms of enhancement technology. This said I sincerely question its potency even against its intended target.

For not only is his argument founded on human dignity, a concept with its origins in theism and thus open to accusations of being both *ad hoc* and without foundation; but also his modification continues in the same arbitrary vein when he argues, without explanation, that human complexity is of obvious benefit to man, or that natural ends are necessarily preferable to utilitarian ends. And this of course throws-up the anomaly as to whether a reduction of human complexity as a result of *natural* ends would also be at odds with human dignity and Factor X?

In addition Fukuyama undermines his position yet further by adopting the seemingly popular contradiction of attacking the idea of posthuman enhancement while at the same time accepting – even applauding – the idea of what can only be described as 'posthuman therapy'. But while he open accepts that "[t]he distinction between therapy and enhancement has been attacked on the grounds that there is no way to distinguish between the two in theory and therefore no way of discrimination in practice." (2002, 209) His proposed solution – the assimilation of posthuman therapy into the pseudo-naturalised concept of humanist medicine (whilst leaving posthuman enhancement out in the proverbial cold) – seems again to be little more than drawing subjective lines in the sand.

"One obvious way to draw lines is to distinguish between therapy and enhancement, directing research towards the former while putting restrictions on the latter. The original

purpose of medicine is after all, to heal the sick, not to turn healthy people into gods. We don't want star athletes to be hobbled by bad knees or torn ligaments, but we also don't want them to compete on the basis of who has taken the most steroids. This general principle would allow us to use biotechnologies to, for example, cure genetic diseases like Huntington's chorea or cystic fibrosis, but not to make our children more intelligent or taller." (2002, 208-209)

In conclusion Fukuyama position – which quite appropriately tries to incite discourse into the cost-benefit analysis of posthuman therapy/enhancement technology – seems to be ground on little more than an unsound and outmoded argument which seeks to defend anthropocentrism by employing increasingly obscure, ambiguous and potentially fictional identifiers; that has then been modified into an equally shaky defence of man (in his present form) from 'utilitarian ends' by highlighting a number of potentially unforeseen side-effects, the plausibility and causality of which are questionable and their detrimental nature arbitrary, inconsistent and seemingly incompatible, i.e. contingent on whether they originate from natural or utilitarian ends – apart from when it is *deemed* an issue of 'therapy'.

Autonomy

"And even supposing this were otherwise and not as the argument has proven, still the lawgiver, who is worth anything, if he ever ventures to tell a lie to the young for their good, could not invent a more useful lie than this, or one which will have a better effect in making them do what is right, not on compulsion, but voluntarily." (Plato 663d-e *Laws* II, 39)

Another common attack on posthuman enhancement comes from those who believe it will undermine human autonomy and thus detrimentally affect the human psyche. Again this theory is usually predicated on the assumption that the natural is necessarily preferable to the unnatural; and human complexity is self-evidently sacrosanct:

"We therefore tend to forget that the revolution of breeding practices by genetic engineering is itself no longer governed by the clinical mode of *adjustment* to the inherent dynamic of nature. What it suggests, rather, is the *dedifferentiation* of a fundamental distinction which is also constitutive of our self-understanding as species members." (Habermas 2003, 46)

Superficially, Habermas seems to be arguing that the adoption of genetic engineering will result in humans no longer being governed by nature. The inference here is twofold: firstly, that biotechnological breeding practices are unnatural; and secondly, that current breeding practices are by contrast natural. Now to concede that such breeding practices are unnatural or different is one thing, but the suggestion that the medically supported, socio-economic selection of First World human reproduction follows the 'inherent dynamic of nature' is to bring Habermas's concept of 'nature' into question and possibly render it meaningless.

On a less superficial level, Habermas seems to be arguing that human complexity and natural breeding practices should be protected from posthuman enhancement because they are inextricable to our self-understanding. But the justification for this protectionism seems shaky for it appears to be founded on little more than a desire not to see it questioned, as if the questioning of our self-understanding was necessarily detrimental.

Habermas then builds on this foundation the argument that reproductive genetic engineering will result in a certain – and to his mind, inhuman – level of predestination. The result of which "is likely to

affect the autonomous conduct of life and moral understanding." (Habermas 2003, 52) This said, Habermas stresses he does not believe this will result in 'genetic determinism', but rather that genes are associated with 'dispositions'. (2003, 53) But even dispositions fashioned by human intervention would, he argues, result in "the poor soul who has been genetically modified, having only two alternatives, fatalism and resentment." (Habermas 2003, 14) Fatalism because his autonomous potential has been impinged by technological manipulation; and resentment because he has been used as a means to his designer's ends, which contravenes the *categorical imperative* (Habermas 2003, 55), another seemingly innately measure, the adoption of which Habermas fails to justify beyond the consequentialism of its non-adoption. It is important here to note although Habermas's argument is tailored to biotechnology, it is also directly applicable to other enhancement activities such as brain/computer interfaces and neurological bionic implants etc. both of which could affect our self-perception of autonomy.

Thus far it may appear that Habermas's critique of human nature is founded on the seemingly outmoded Kantian metaphysics of free will and moral absolutism and to a certain extent this is correct; but as even Fukuyama points out, Kant believed:

"Humans beings had dignity because they alone had free will – not just the subjective illusion of free will but actual ability to transcend natural determinism and the normal rules of causality. It is the existence of free will that leads to Kant's well-known conclusion that human beings are always to be treated as ends and not as means.

It would be very difficult for any believer in a materialistic account of the universe – which includes the vast majority of natural scientists – to accept the Kantian account of human dignity." (Fukuyama 2002, 151)

However, Habermas's claim that there is an imperative to restrict posthuman enhancement is *not* predicated on the necessity of Kantian metaphysics, but rather the continuing general assumption that Kantian metaphysics *is* 'true'. In fact Habermas's position seems to be based on his tacit acceptance that the vast majority of people believe – seemingly erroneously in his opinion – that humans have free will in the Kantian sense (as in the *liberty of indifference*) and thus act according by attributing responsibility to agents; and accepting cognitivism and moral universals such the categorical imperative. He continues by arguing that:

"Eugenic interventions aiming at enhancement reduce ethical freedom insofar as they tie down the person concerned to rejected, but irreversible intentions of third parties, barring him from the *spontaneous self-perception* [my emphasis] of being the undivided author of his own life." (Habermas 2003, 63)

The telling phrase here is 'spontaneous self-perception' for it denotes what Fukuyama called the 'subjective illusion of free will' (2002, 151), otherwise known as the *liberty of spontaneity*. From this perspective Habermas seems to be arguing that the reason we should reject posthuman enhancement is *not* because it would reduce our autonomy and thus undermine our self-perception, but because it would result in the widespread (but ultimately incorrect) belief that it would reduce our autonomy and thus undermine our self-perception.

Now this argument seems to make little sense if you believe that the solution to this metaphysical misinterpretation is a policy of extensive public re-education. In actuality it only seems to make sense if you wish to actively utilise the erroneous belief as the bases of your counterargument, arguing to the general public that the rejection of posthuman enhancement will safeguard human autonomy.

Of course Habermas would perceive such an argument as nothing but honourable. And again from a certain perspective he would be correct, for if one adopts the necessary 'God's-eye-view'

of the error theory, it is possible to reason that Habermas is *not* trying to protect the material of human autonomy but rather its essence. This said others may argue that whilst there is nothing but the illusion of *origination* and thus nothing material to protect, the argument duplicitously portrays the protection of the material because it is hung (nefariously) off the back of the public's mistaken belief that the material of human autonomy *could* be lost.

And this is the crux of Habermas's argument, the seemingly neo-Straussian belief that the general public are best served by keeping them ignorant of the fact that origination is an illusion because the current mistaken belief that it is not an illusion is seen as a fundamental and positive part of human self-perception. Unfortunately posthuman enhancement is deemed to have an enormous potential to illuminate and challenge the public's error. It therefore follows that such enhancement must be stopped before it can undermine this 'positive' but flawed self-perception. It must be noted here that ironically those who champion this argument cannot solicit widespread advocacy. For the fundamental problem with Habermas's position – as with all error theories – is that a wholesale acceptance of the stance ultimately destroys it. This is because it is impossible to view the error without the necessary God's-eye-view, having done so it is then impossible to regress back to truly (but mistakenly) believing in Kantian metaphysics. As a result the success of the argument depends on its ability to remain hidden from the majority, as an act of social protectionism.

Doubtlessly some will question whether the public is really best served by keeping them ignorant? Whether serving the public's best interest should be more important than giving an accurate account of contemporary thinking? Whether the public's erroneous view of human autonomy is necessarily a positive part of human self-perception? And whether challenging our self-perception is self-evidently detrimental?

But pragmatically such questions may be a distraction because I doubt the ultimate success of Habermas's standpoint. For even with continuing metaphysical ignorance and a universal moratorium on posthuman enhancement (something neigh inconceivable); soon there will be the technology and knowledge that will allow a simple genetic test to be conducted at birth, that when given to someone who has *not* undergone genetic engineering, will highlight their future predisposition in exactly the same fashion it would if they had been genetically modified. The only difference is the illusion of a genetic lottery in the former and the illusion of parental design in the latter. Either way, the likely result is the same, the questioning of human autonomy and our self-perception in the very manner Habermas is trying to protect against.

Extreme Precaution

"Man is a limited and partial creature, a product of material evolution. He is a relative being, moulded by the struggle to survive in particular conditions on a particular planet. We have no grounds for supposing that his construction is adapted to understanding the ultimate nature or cause or purpose of the universe and indeed every reason for supposing the contrary." (Huxley 1931, 242)

Unfortunately no matter how advanced Huxley's thinking was for its time, it would be disingenuous to suggest that the above quote was an example of prophetic postmodernism. For when Huxley talks about the limited nature of man, he is not referring to the ultimate subjectivity of the pursuit of knowledge; he is questioning the capacity of man and whether he will ever be able to fully comprehend the *telos* of man and the universe. And when he goes on to note: "The commonest objection to such constructive eugenic ideas is that we do not know enough about the subject to decide upon the most desirable direction in which to push forward" (Huxley 1931, 116), although this appears strikingly similar to contemporary scientific scepticism which argues "the subjectivity of

the human object, anthropology, according to the epistemological argument cannot be a science; and in any event the subjectivity of the human subject precludes the possibility of science discovering objective truth." (Spiro 1996, 759) The anti-eugenicists are not arguing the search for progress is necessarily irresolvable and thus meaningless, but rather that the search and resultant action towards the *telos* must be tempered by considerations of the limited abilities of man.

It will of course be over fifty years before this type of thinking – one which questions scientific and technological application by drawing on the ideas of human ignorance, fallibility and unforeseeability – will be encapsulated into the evaluative strategy we know today as the *precautionary principle*. But it is important to note that the principle has its roots in enlightened thinking and is not only compatible with, but evolved out of the ideals of reason, progress and the search for a definitive although predominately secular direction for human existence.

But in an age of postmodernism some critics of posthuman enhancement have taken the lead from elements of the environmental movement and have extended the precautionary principle beyond its methodological scepticism, into full-blown technophobia; transforming it from a constructive evaluative tool into a highly restrictive defence against the development of new posthuman technologies. An advocate of using a so-called 'extreme' version of the precautionary principle as a defence against posthuman enhancement is George Annas who argues:

"The environmental movement has adopted the precaution principle to help stem the tide of environmental alterations that are detrimental to humans. One version of this principle holds that 'when an activity raises threats of harm to human health or the environment...the proponent of the activity, rather than the public, should bear the burden of proof [that the activity is more likely to be beneficial than harmful]' (quote from Raffensperger and Ticker 1999, 354)." (Annas, Andrews and Isasit 2002, 153)

This extreme interpretation of the principle is usually hardened further by marrying it with the belief that technological benefits – whether environmental or in this case posthuman – are practically inconceivable:

"It may be that species-altering techniques, like cloning and inheritable genetic modification, could provide benefits to the human species in extraordinary circumstances. For example, asexual genetic replication could potentially save humans from extinction if all humans were rendered sterile by some catastrophic event. But no such necessity currently exists or is on the horizon." (Annas, Andrews and Isasit 2002, 153)

Unfortunately the absolutist nature of this inconceivability clause – which when combined with the restrictive version of the precautionary principle results in little more than a *de facto* rejection of all posthuman endeavour – seems impossible to maintain consistently without it being predicated on some sort of severe technological cynicism and the belief that *all* posthuman enhancement will necessarily result in the genuine potential for detriment to mankind. From this position it is no longer the case when those advocating posthuman enhancement argue: that emergent biological, mechanical and electronical technologies offer the potential to extend the human beyond its current psychological and physiological limits; these possibilities are seen as self-evident or even potential improvements. For why does having a more powerful brain, or being able to live longer, run faster, jump higher etc. constitute advantage or improvement? Some will argue that current levels of human intelligence are already high enough to be a survival liability. That it has enabled humans to create extremely hazardous nuclear, chemical and biological substances and weapons; massive pollution and environmentally unsustainable lifestyles and enormous over-population etc. In addition it has allowed man to become the only species on the planet capable of – deciding to and succeeding in – killing every member of its own species and probably most others as well. This does not appear to be particularly advantageous. And this line of argument

seems equally valid when applied to physiological enhancements, for even if they are successful they seem just as likely to hinder rather than benefit humanity.

One possible response to this would be to accept that so-called human 'improvements' are relative rather than universal in nature and proceed on that basis. But adopting this position would provoke counterarguments highlighting that while a synchronic examination of, for example: contemporary health issues, may suggest that genetic engineering and transgenic technology etc. offers the potential for relative benefit; a diachronic examination would expose the fact that the vast majority of these health issues are as a direct result of First World industrialisation. If one actively generates health hazards and then (potentially) solves them through technology, should this be deemed more beneficial to humans than simply refraining from generating the problem in the first place? In fact it may be the case that these posthuman solutions are offering at best parity with past human well being; a pertinent question being whether such procedures would offer tangible improvements to the lives of American, Australasia and Africa aboriginals' pre-European colonialism. And if this technology is only offering the possibility for parity, then it may seem reckless to gamble with potentially hazardous and irreversible techniques, when more prudent – but admittedly challenging and time consuming – social and cultural alternatives exist?

But even if this is the case, many who advocate posthuman enhancement will argue that the bigger picture: going beyond the current limits of human psychology and physiology will not only have no precedent, but also help fulfil the ambitions and desires of most humans, for the vast majority would love to have a more powerful brain, or be able to live longer, run faster, jump higher etc. But if this is so, cynics may well argue that it says more about the vacuous, instant-gratification lifestyles of most First World citizens than any considered opinion on 'the good life'. In fact due to the relative nature of our existence, any perceived advantage in increasing – for example – human lifespan, will most probably be swallowed-up within a few generations. For instead of using those extra say: thirty years, to do all those things the average person today never gets round to doing in a lifetime, the most likely outcome will be humans spend more time doing exactly the same things they have always done. We will spend longer at school, longer at university, longer at work etc. The life expectancy in the UK for a new born boy in 1901 was 45 years; in 1999 it was 75 years. (Hicks and Allen 1999, 8) Do we as individuals revel in these extra years we have gained? Have they resulted in greater fulfilment, achievement and self-worth? Do we even notice we have them? Unfortunately any fundamental difference in the abilities of man will only seem fundamental for a short period of time before they become the norm; from momentous, to banal in a few generations. Of course it may take a few extra generations to adapt to rapid change, but soon society will forget the past and destroy any relative advantage.

Technological cynics will highlight the seeming irresponsibility of allowing humans to determine their own evolutionary direction, citing the capricious nature in which past, present and probably future generations have and will define and re-define what is good for man and society. Human history is littered with allegories of possible futures that constantly fluctuate between the utopian and the dystopian. The paradigmatic contemporary example of this is Aldous Huxley's novel *Brave New World*. Written in 1932 when human eugenics was widely touted as the imminent solution to most social problems, the book was viewed by many and written by Huxley (brother of renowned biologist and pro-eugenicist Julian Huxley) as purely utopian. The revelations of the Holocaust changed all that and the public outcry "all but buried the eugenic ideal". (Kevles 1999, 251) From that moment on *Brave New World* has been usurped and reinterpreted as prophetic and dystopian. Sixty years on and the ever increasing talk of cloning, embryo selection and genetic engineering etc. is again challenging our perceptions of reproductive enhancement. And to this end, *Brave New World* may soon become utopian again.

But while the arguments associated with technological cynicism and extreme precautionary principles may seem cogent, lucid and persuasive, there is the distinct possibility that it is a pyrrhic victory for the secular humanists that have co-opted it. For if the principle is to be deemed as more

than simple arbitrary protectionism, it will need consistence of application and will need to be applied to *all* new technologies, not just posthuman enhancement. But unlike many radicals within the environmental movement, the idea of abandoning large swaths of agricultural, commercial, medical and future-technologies research simply because they fail to meet this version of the precautionary principle will seem to most humanists tantamount to 'throwing the baby out with the bath water'. Obviously not wanting this, Annas is thus forced to challenge accusations of subjectivity and inconsistent application by arguing that posthuman enhancement *alone* should receive 'special treatment':

"In fact, cloning and inheritable genetic alterations can be seen as crimes against humanity of a unique sort: they are techniques that can alter the essence of humanity itself (and thus threaten to change the foundation of human rights) by taking human evolution into our own hands and directing it towards the development of a new species, sometimes termed the 'posthuman'." (Annas, Andrews and Isait 2002, 153)

Unfortunately Annas's strategy is little more than hanging the legitimacy of one argument on the inferred legitimacy of another. And not only does this constitute a weak counterargument to allegations of *ad hoc* protectionism, but it also leads the argument straight back to human essence and Fukuyama.

Conclusion

The overriding problem with the above arguments – and the vast majority of those within the anti-enhancement camp – seems to be their propensity to defend humanity by relapsing (potentially duplicitously) into metaphysical fantasy, religious providence and assumptions of the superiority of nature. But while these positions may have the advantage of being: socially intuitive, compatible with secular and theist doctrine and able to provoke emotive, impassioned and proactive responses from the public; they ultimately disintegrate under serious scrutiny. And one possible reason for their weakness may be a desire (whether out of unity or deceit) to have a foot in each camp, one in the religious and the other in the material; it being plausible that some humanists may have been tempted to adopt a 'methodologically' secular standpoint in an attempt to increase the dissemination and legitimacy of what are basically theist beliefs. To this end a telling statement may be Fukuyama's apparent nod to the religious gallery when he argues: "The problem of how consciousness arose does not require recourse to the direct intervention of God. It does not, on the other hand, rule it out, either." (2002, 171)

But either way, from the perspective of the initiated, the fundamental nature of these inconsistencies has severed to render their counterarguments not only impotent as cogent, unambiguous and unbiased defences against posthuman enhancement, but also beyond repair and reapplication. It would therefore seem that if posthuman enhancement is to be engaged with greater success, new perspectives and arguments are needed.

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