

An Unfit Future: Moral Enhancement and Technological Harm

LEWIS COYNE

Abstract

This essay addresses two aspects of Persson and Savulescu's case for moral enhancement: 1) the precise technological nature of ultimate harm, particularly as it applies to the ecological crisis, and 2) what is at stake in the solution they propose. My claim is that Persson and Savulescu's treatment of both issues is inadequate: the ecological crisis is a more complex phenomenon than they suppose, and more is at stake in moral enhancement than they claim. To make my case I draw on the work of Hans Jonas, who presciently and insightfully dealt with related questions. Jonas' philosophy unites bioethical, technological, and environmental concerns and so offers a useful contrast to Persson and Savulescu's proposal. If my analysis is correct then we have both practical and principled reasons to be sceptical about the prospect of moral bioenhancement, which I assume, for the sake of argument, to be feasible.¹

1. Introduction

I shall start with the question of technology. Persson and Savulescu argue that modern scientific technology poses the threat of 'Ultimate Harm', namely, 'forever destroying life on Earth' or at least 'making *worthwhile* life forever impossible on this planet'.² This discrepancy will become relevant later on. They identify nuclear warfare and anthropogenic climate change as the principal sources of this danger, but also mention a variety of other cases such as biological and chemical weapons.³ Persson and Savulescu speculate that the mid-twentieth century represented a turning point in human history as we acquired the capacity through nuclear technology to cause ultimate harm, which until then would have been 'wildly implausible'.⁴ Equally, they note that around the same

¹ I use "moral enhancement" and "moral bioenhancement" interchangeably throughout, as, for reasons that shall become apparent, I do not accept the claim that education can be understood as part of the former.

² Ingmar Persson and Julian Savulescu, *Unfit for the Future: The Need for Moral Enhancement* (Oxford: Oxford University Press, 2012), 133, 10, 46 (my emphasis).

³ Persson and Savulescu, *Unfit for the Future*, 48–51.

⁴ Persson and Savulescu, *Unfit for the Future*, 126.

time ‘catastrophic degradation of the environment had not yet gained momentum’.⁵ For this reason they claim that technological development from that point on might be regarded as for the worse, all things considered.⁶

Of the two main cases I will focus on the ecological crisis, although much of what I have to say below about technology in that context also applies to nuclear warfare.⁷ The key difference between the two is that nuclear harm does not necessarily follow from modern industrial civilisation: despite many nation states having the technological and economic capacity for nuclear armament, just nine are in possession of deployable warheads.⁸ This is more than enough to bring about ultimate harm through nuclear warfare – a possibility encouraged by the particular designs of the weapons systems – but armament is not itself an inevitability. Persson and Savulescu’s associated concern is that a suicidal terrorist group could either commandeer an existing nuclear weapons systems or develop their own.⁹ But again, whilst this increases the chance of ultimate harm, it does not forge a necessary link between the development of modern technological civilisation and that harm coming about.

By contrast, the ultimate harm posed by the ecological crisis is *built in to industrial civilisation*. This difference reveals a curious oversight in Persson and Savulescu’s argument: there is little analysis of what technology actually is, how it develops, or how it in turn influences society. Enough is said, however, to make an educated guess. Persson and Savulescu speak of the ‘risks of misapplying’ and ‘misusing’ technology, leading them to wonder whether ‘human beings will waste most of the huge potential to do good that modern scientific technology offers’.¹⁰ Such comments imply that the conception of technology at play here is an instrumental one: the idea that technology is a neutral means and that what matters, morally speaking, are the ends to which it is put to use. The remainder of the chapter

⁵ Persson and Savulescu, *Unfit for the Future*, 126.

⁶ Persson and Savulescu, *Unfit for the Future*, 127.

⁷ In particular that nuclear weapons cannot be understood in an ‘instrumentalist’ way, as the likelihood of their use is informed by the systems in which they are embedded (in this case primarily military).

⁸ This figure includes Israel, whose nuclear status is likely but unconfirmed. ‘Nuclear Notebook’, *Bulletin of the Atomic Scientists*: <http://thebulletin.org/search/feature-type/nuclear-notebook>.

⁹ Persson and Savulescu, *Unfit for the Future*, 47–48.

¹⁰ Persson and Savulescu, *Unfit for the Future*, 10, 52, 11.

therefore assumes Persson and Savulescu to be technological instrumentalists.

This position is no longer widely taken by philosophers of technology. The countervailing substantive conception of technology came to prominence through Martin Heidegger,¹¹ Jacques Ellul,¹² and Herbert Marcuse,¹³ and was prefigured in the work of Lewis Mumford.¹⁴ The basic idea is that technology is not just an instrument, a simple means to an end, but can also shape our behaviour and so inform the ends to which it is put. Albert Borgmann gives an example of this by contrasting a traditional household fireplace with a modern central heating system. He notes that the fireplace, as provider of warmth in the house, tended to physically and socially centre the inhabitants in one room. At the same time it was intimately tied to the local source of timber, and provided skilful routine tasks such as fire-lighting.¹⁵ The central heating system, however, disperses warmth equally throughout the household and thus lacks a focal social point. Moreover, it is less intimately connected to the environment fuelling it, and any more work involved in using it than clicking a button is considered laborious. Finally, its complex workings are largely hidden from the view and understanding of the user and become the domain of an operational specialist. As a result the central heating system encourages different social, environmental, and economic relations, which in turn influence the sort of technology we want – i.e., technology which fits these new relations, such as the thermostat.

What this brief example shows is that in various ways – some subtle and unintentional, others obvious – technology changes us when we change it. There is, in other words, no simple means-end relation between technology and human goals, as I take Persson and Savulescu to suppose, but rather a dialectic of means and ends.¹⁶

¹¹ Martin Heidegger, *The Question Concerning Technology and Other Essays*, trans. by William Lovitt (New York: Harper & Row, 1977).

¹² Jacques Ellul, *The Technological Society*, trans. by John Wilkinson (New York: Vintage, 1964).

¹³ Herbert Marcuse, *One Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (London: Abacus, 1972).

¹⁴ Lewis Mumford, *Technics and Civilization* (Chicago: University of Chicago Press, 2010).

¹⁵ Albert Borgmann, *Technology and the Character of Contemporary Life: A Philosophical Inquiry* (Chicago: University of Chicago Press, 1984), 41–42.

¹⁶ In the work of some technological substantivists, particularly Heidegger and Ellul, this aspect admittedly takes on an indefensibly deterministic character. However, this is by no means necessary. Marcuse, for

We shall see that in analysing the ecological crisis this conception of technology offers greater explanatory power.

2. The Dynamics of Modern Technology

Hans Jonas has explored the connection between the development of modern technology and the ecological crisis, tracing the origin of both to the Renaissance. At its core the Renaissance was a ‘revolution of thought’ entailing a ‘change in theory, in world-view, in metaphysical outlook’, the consequences of which have slowly played out over the last six centuries.¹⁷ The old Aristotelian-Scholastic understanding of a teleological and hierarchical universe – the *scala naturae* – was decisively challenged by Copernicus’ heliocentric model of the solar system. Newtonian physics then revealed the universe to be devoid of final causes, and was instead conceived of as matter in motion subject to causal laws – as Galileo famously stated, nature was an ‘all-encompassing book [...] written in a mathematical language’.¹⁸ At the same time the materialist revolution extended to the realm of living beings. In Descartes’ mechanistic biology both animal and plant life were stripped of ends, and finally, in the nineteenth and twentieth centuries, the Darwinian revolution allowed the human being to undergo similar treatment. In both cases – living beings and the wider universe – nature became ever more homogenous, machine-like, and devoid of teleological significance.

According to Jonas this new mechanistic metaphysics facilitated an approach to nature involving ‘actual manipulation in the investigative process’.¹⁹ For this reason he claims modern science ‘is technological by nature’.²⁰ By this I take Jonas to mean the following: whereas

instance, offers a critique of modern technology based on its interactions with capitalist society without recourse to fatalism. Even “posthumanist” philosophers of technology such as Tamar Sharon and Rosi Braidotti, both proponents of biotechnology and human enhancement, subscribe to a substantive conception of technology.

¹⁷ Hans Jonas, *Philosophical Essays: From Ancient Creed to Technological Man* (New York: Atropos Press, 2010), 48.

¹⁸ Galileo, *The Essential Galileo*, ed. and trans. by Maurice A. Finocchiaro (Indianapolis: Hackett, 2008), 183.

¹⁹ Jonas, *Philosophical Essays*, 48.

²⁰ Hans Jonas, *The Phenomenon of Life: Toward a Philosophical Biology* (Illinois: Northwestern University Press, 1966), 198.

premodern science largely divorced contemplation of nature (*theoria*) from the realm of practical intervention (*praxis*), modern science's emphasis on mathematical quantification better lends itself to practical intervention. The distinction between theory and practice is then partially dissolved in experimentation by actively doing things to nature in the pursuit of empirical knowledge, and this practical bent allows actual instruments to take centre stage: from telescope, to microscope, to Large Hadron Collider, *technology increasingly becomes the means by which scientific advances are made*. With this fusion of theory and practice Jonas claims a merging takes place in the means-end relationship between them. Now, rather than scientific theory acting as the bedrock upon which technological innovation occurs, technological innovation is also at the heart of scientific discovery. Thus a circularity emerges: new scientific discoveries allow for technological advances, which in turn propel scientific research, which in turn generates novel technologies, and so on, *ad infinitum*. Jonas calls this forward thrust the 'formal automatics' of modern technology.²¹

The industrial revolution of the eighteenth and nineteenth centuries then saw scientific-technology put to the widespread use of capitalism. The fusion of research, innovation, and economic activity further dissolved the distinction between technological means and social ends and served to rapidly hasten development. In addition to market competition, technological advance was driven by the desire for greater production, efficiency, and safety from the new capital-intensive means of mass production. Finally military and political struggles between nations spurred on industrialisation. Initially this involved the market economies of Western Europe and North America (and later Japan), before the Cold War set them against the planned economies.²² Market economies ultimately proved more efficient than their adversaries, and following the collapse of the Soviet Union the industrial capitalist mode of production spread worldwide. Although it has adapted to particular national institutions and circumstances, most countries can now be characterised

²¹ Hans Jonas, 'Toward a Philosophy of Technology', *Hastings Center Report* 9:1 (1979), 34–43, 36.

²² Jonas notes that centralisation of the sort required by a state-led economy and its "five-year-plans" requires efficient infrastructure, communications, and bureaucracy, and speculates that this would act as a sufficient impetus for technological change (albeit at a slower pace) even in the absence of a Cold War.

to some extent as part of a global 'scientific-technological-industrial civilization'.²³

In market economies the dynamic of supply and demand informs both the sort of technology developed and its necessity. This accelerates the aforementioned forward momentum, as technology, intertwined with our social, economic, and political activity, 'suggests' and 'creates' new ends.²⁴ In other words, we are encouraged to consume novel technology because prior technology makes it desirable, on both an individual and social level. Here is Jonas again:

Technology thus adds to the very objectives of human desires, including objectives *for technology itself*. The last point indicates the dialectics or circularity of the case: once incorporated into the socioeconomic demand diet, ends first [...] generated by technological invention become necessities of life and set technology the task of further perfecting the means of realizing them.²⁵

Take the automobile as an example. Cars and trucks were not isolated technological inventions, but brought about tarmacked roads, motorways, petrol stations, speed cameras, traffic lights, new laws, taxes, and insurance, the driving instruction and mechanic professions, new opportunities for trade, and so on. All become desirable when accommodating the new technology into our socio-economic life, and any of *these* technologies or practices may serve to facilitate others. Langdon Winner, another substantivist philosopher of technology, has called this effect 'necessity through aimless drift', wherein 'possibilities widen, but so do the demands'.²⁶ This relation lies at the heart of an adequate philosophy of technology: the positive feedback loop of technological innovation and consumption strengthening our reliance upon ever more technology.

We come to realise that there is no single power directing technological development. It is rather a *mélange* of scientific technology on the one hand and industrial capitalism on the other, each containing 'a variety of currents of innovation', as Winner says, 'moving in a

²³ Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*, trans. by Hans Jonas and David Herr (Chicago: Chicago University Press, 1984), 140.

²⁴ Jonas, 'Toward a Philosophy of Technology', 36.

²⁵ Jonas, 'Toward a Philosophy of Technology', 36 (my emphasis).

²⁶ Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought* (Cambridge, MA: MIT Press, 1977), 89, 102.

number of directions toward highly uncertain destinations'.²⁷ It has, however, a coherent ideological dimension in the notion of *progress*. This is essentially the idea that technological innovation as such is a good thing, and that problems encountered in its forward march will likely be solved by better technology. Progress has a more extreme counterpart in techno-utopianism: the belief held by Bacon,²⁸ Descartes, and contemporary transhumanists, that technology will make us 'masters and possessors of nature'.²⁹

Successful ideologies, as Antonio Gramsci argued, 'modify the average opinion of a particular society' and obtain the status of common sense through a process he called 'cultural hegemony'.³⁰ Social structures such as the media, education, politics, art, and entertainment unintentionally serve to reproduce ideas beneficial to the general functioning of a particular system. These structures, widely available in contemporary capitalism, disperse appropriate ideas like progress throughout society. The ideology of progress is clearly not adhered to by all – no ideology is – but is prevalent enough to motivate consumer behaviour and further feed the dynamics outlined above.

3. The Systemic and Psychologicistic Analyses of Technological Harm

Now, Persson and Savulescu explain the ecological crisis as at bottom a moral problem, citing 'the selfish and short-sighted behaviour of masses of people' that follows, they say, from the 'limitations of our altruism and sense of justice'.³¹ Our moral psychology is 'designed for life in small communities with limited technology', and therefore not fit for purpose in light of the looming, self-created ultimate harm.³² In short, the problem is not technology but those who use it. This appears, however, to be a partial misdiagnosis. Much of our behaviour may

²⁷ Winner, *Autonomous Technology*, 88.

²⁸ Francis Bacon, *The New Organon*, ed. by Lisa Jardine and Michael Silverthorne (Cambridge: Cambridge University Press, 2000).

²⁹ René Descartes, *Discourse on Method and the Meditations*, trans. by F. E. Sutcliffe (London: Penguin, 1968), 78.

³⁰ Antonio Gramsci, *Prison Notebooks*, Vol. 1, ed. by Joseph A. Buttigieg (New York: Columbia University Press, 1992), 173, 179.

³¹ Persson and Savulescu, *Unfit for the Future*, 68, 105.

³² Ingmar Persson and Julian Savulescu, 'The Art of Misunderstanding Moral Bioenhancement: Two Cases', *Cambridge Quarterly of Healthcare Ethics* 24:1 (2015), 48–57, 49.

very well be selfish and short-sighted, but the psychological ‘limitations’ invoked by Persson and Savulescu as the cause are questionable. Our senses of altruism and justice, while still felt most keenly toward those close to us in space and time, now extend both into the future and across the globe. As Michael Hauskeller points out, we need only think of the recent expansion of the circle of moral considerability to include not only other nations and races, but also future generations, non-human animals, and living beings as such.³³ This last is the most contentious, but even so finds international agreement in the 1982 UN World Charter for Nature (voted against only by the United States).³⁴ Each of these ethical positions, though certainly not universally held, are sufficiently common to challenge Persson and Savulescu’s ahistorical claims about our inherently ‘myopic’ and ‘parochial’ moral purview.³⁵

The question, then, is why we continue to act in short-sighted and ecologically deleterious ways in spite of our moral beliefs. Drawing on the substantive conception of technology, rooted in a historical and social critique, we are able to explain the ecological crisis as a predominantly *systemic* phenomenon. Individuals act within the framework described above which structures actions and their consequences. For this reason we cannot avoid the direct or indirect use of fossil fuels, production of unrecyclable waste, and consumption of resources from across the globe, simply because our social world is structured that way. As a banal example, consider the following: I wake up in the morning to the alarm on my mobile phone, a device made in China with materials including tantalum extracted in Africa. It is still dark so I turn on the light, running on electricity generated by nuclear power and burning coal, put on my dressing gown (made in Bangladesh), and go to the kitchen to make a coffee. The coffee beans were grown in Colombia and transported across the Atlantic before being packaged in an unrecyclable plastic wrapper somewhere in Europe. I turn on the stove, using gas extracted from the North Sea, to heat the coffee pot, before fetching some milk

³³ Michael Hauskeller, ‘The Art of Misunderstanding Critics: The Case of Ingmar Persson and Julian Savulescu’s Defense of Moral Bioenhancement’, *Cambridge Quarterly of Healthcare Ethics* 25:1 (2016), 151–161, 154.

³⁴ ‘Every form of life is unique, warranting respect regardless of its worth to man, and, to accord other organisms such recognition, man must be guided by a moral code of action’. United Nations General Assembly, Resolution 37/7, ‘World Charter for Nature’, 28th October 1982: www.un.org/documents/ga/res/37/a37r007.htm.

³⁵ Persson and Savulescu, *Unfit for the Future*, 39.

from the fridge which has been running all night.³⁶ And so on. On an individual level my actions are innocuous, but they are of course only possible as part of a destructive socio-economic whole. Each act presupposes a chain of events which, on a large enough scale and over a long enough time, entail serious ecological harms.³⁷

Such are the consequences of our collective patterns of behaviour. Of course, each of us has the ability to opt out of some ecologically harmful practices, from luxuries such as air travel to more prosaic activities like eating meat. Equally, we could choose to have no more than two children so as to arrest population growth. All these and more might be reasonable demands if we are serious about upholding our professed ecological, international, and intergenerational morals. But individuals can only opt out of certain harmful practices while remaining part of mainstream society, and here lies the crux of the matter: we have to live somewhere, work, travel, eat, drink, wash, clothe ourselves, and so on, and most of us can only do so in the society we already inhabit. "Dropping out" is simply not a reasonable option for the majority. As such, even well-meaning individuals, if they remain within industrial society, have only limited scope for lifestyle changes which would fully accord with their moral beliefs. The ecological threat of ultimate harm is therefore far more complex than Persson and Savulescu recognise, and the possible efficacy of moral enhancement more limited than they suppose. A further-reaching critique of technological harm reveals that the problem is more social and systemic than it is individual and moral.

4. Persson and Savulescu's Psycho-Politics

The neglect of social conditions at the expense of evolutionary psychology also serves to undermine Persson and Savulescu's analysis of liberal democracy, which they rightly identify as playing a role in the threat of ultimate harm. Liberal democracy is defined as a form

³⁶ The milk, at least, came from an organic farm in England.

³⁷ Moreover, I rarely actually see these harms, which are situated at a geographic or temporal remove: the pollution generated by manufacturing and shipping goods occurs elsewhere, the rubbish I dispose of is dumped in a remote landfill, nuclear waste is buried underground, and the climatic change caused by any greenhouse gas emissions does not yet affect me. For more on the social allocation of risk, see Ulrich Beck, *Risk Society: Towards a New Modernity*, trans. by Mark Ritter (London: SAGE Publications, 1992).

of elected government prioritising individual freedom, in which the state only interferes to uphold the equal freedoms of others.³⁸ The problem, as Persson and Savulescu see it, is that this liberty gives free reign to our moral psychology which is prone to selfishness and short-sightedness: 'climatic and environmental problems stem from the very heart of democracy – the behaviour of the majority'.³⁹ Despite the clear need to lower our levels of consumption, '[i]t seems unlikely that citizens of Western democracies will voluntarily consent to such restraint' and, moreover, 'governments in liberal democracies are likely to be disinclined to propose such regulations' for fear of unpopularity and therefore electoral unviability.⁴⁰ As our psychological shortcomings make such sacrifices unlikely, they believe 'individual liberty, which is a mark of these democracies, will have to be curtailed'.⁴¹

There is a sense in which Persson and Savulescu are correct whilst at the same time missing the mark. Liberalism (rather than democracy) is indeed part of the problem insofar as it grants excessive freedom in scientific research, technological innovation, and the marketplace, the amalgamation of which we have identified as the underlying cause of ultimate harm. It follows that *this* component should be curtailed, as it already is to some degree in continental European countries and less so in the Anglophone nations. Given that liberal democracies already permit degrees of freedom facilitating technological harm, subject to political control, it seems we ought to demand greater political control so as to tackle the ecological crisis. But having framed the issue incorrectly this is not the conclusion reached by Persson and Savulescu. Viewing liberal democracy as the quintessential political expression of our evolutionary psychology, rather than an ideological tradition forming part of a socio-economic system, they are led to underestimate the possibility of political transformation.

As indicated, much like the expansion of the moral circle, history tells us that liberal democracy is not immutable but rather open to change. Charles Taylor notes that to dispel any sense of political fatalism '[w]e need only think of the whole movement since the Romantic era [...] and of the offshoot of that movement today, which is challenging our ecological mismanagement'.⁴² The classic case is the campaign,

³⁸ Persson and Savulescu, *Unfit for the Future*, 43.

³⁹ Persson and Savulescu, *Unfit for the Future*, 92.

⁴⁰ Persson and Savulescu, *Unfit for the Future*, 79, 80.

⁴¹ Persson and Savulescu, *Unfit for the Future*, 77.

⁴² Charles Taylor, *The Ethics of Authenticity* (Cambridge, MA: Harvard University Press, 1991), 99.

following the publication of Rachel Carson's *Silent Spring*, to ban agricultural usage of DDT which contributed to the establishment of the US Environmental Protection Agency.⁴³ For internationally-negotiated examples we could point to the apparently successful 1987 Montreal Protocol, banning substances contributing to the depletion of stratospheric ozone, or, more recently, the 2015 Paris Agreement on climate change which aims to limit the global mean temperature rise to 1.5–2°C above preindustrial levels. The point is that *some* real political changes have been demanded and made. Once again this should make us wary of Persson and Savulescu's strong claims for our selfish, short-termist psychology which supposedly drives liberal democracy.

The alternative critique of technological civilisation I have offered is better able to explain how such reforms come about. Following Gramsci, we saw that ideologies such as progress are hegemonically transmitted through social institutions. It should be noted, however, that hegemony is not deterministic since the social structures which entrench ideology as common sense only do so *via* individual agency. Anthony Giddens has described how this works in a process he calls 'structuration'. Whereas Gramsci explained how ideology becomes common sense on an abstract level, Giddens showed that concrete social structures are reinforced and ideologically justified *through* agents: those who are able to 'exercise some sort of power'.⁴⁴ According to Giddens, social actors, though possessing little agency individually, are yet collectively responsible for the structural reproduction of ideology. He notes that structural conditions are dialectically 'both constituted by human agency, and yet at the same time are the very medium of this constitution'.⁴⁵ That is to say: agents, who are to a great degree shaped by social structures, nevertheless possess the capacity to inform those structures in their reproduction of them. This is how seemingly monolithic structures are changed or even toppled – if enough agents challenge a particular structure, shifting collective opinion, that structure can be overturned.

Courtesy of Giddens we can explain how politically-driven changes to technological civilisation have come about and how they could continue to do so, provided they are sufficiently agitated for.

⁴³ Rachel Carson, *Silent Spring* (London: Penguin Books, 1965).

⁴⁴ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Berkeley and Los Angeles: University of California Press, 1984), 14.

⁴⁵ Anthony Giddens, *New Rules of Sociological Method: A Positive Critique of Interpretative Sociologies*, 2nd edn (Stanford: Stanford University Press, 1993), 129.

There is no imperative of evolutionary psychology preventing us from establishing more powerful regulatory bodies to oversee scientific research and development, or imposing heavy taxes on the worst polluting industries and using the proceeds to transfer to renewable energy sources. Such policies would challenge core aspects of technological civilisation – in particular the free market – and for *this* reason are hard, though not impossible, to achieve. The most plausible solution to ultimate harm would therefore be political action rather than moral enhancement.

Now, Persson and Savulescu would respond by saying that moral enhancement could help in motivating the political struggle for such reforms.⁴⁶ Perhaps it could: let us follow this train of thought. If changes to technological civilisation are driven by public will, as I suggest, then the current level must be insufficient to pose a fundamental challenge. If this is the case, and more people need to be engaged – numbering in the millions or perhaps even billions – moral enhancement would have to be comparably widespread in order to have the desired effect. However, there seems to be no reason for such uptake to occur voluntarily. Why would anyone not already agitating for action to tackle the ecological crisis be willing to undergo moral enhancement *in order to agitate for action to tackle the ecological crisis*? There seems to be a problem here in that those most in need of moral enhancement are those least likely to volunteer for it, and *vice versa*.

If voluntary moral enhancement is unlikely to work on the necessary scale it would presumably have to be compulsory, as Persson and Savulescu initially proposed.⁴⁷ This raises the following question: if Persson and Savulescu are willing in principle to countenance an authoritarian application of moral bioenhancement to address ultimate harm, why not just advocate authoritarian solutions to the ultimate harm itself? It seems unnecessary to take the detour through moral bioenhancement if one can, with Persson and Savulescu, accept authoritarian means in principle. After all, a government with the power to implement compulsory moral enhancement on the necessary scale would presumably also have the power to

⁴⁶ Persson and Savulescu, 'The Art of Misunderstanding Moral Bioenhancement', 55.

⁴⁷ Ingmar Persson and Julian Savulescu, 'The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity', *Journal of Applied Philosophy* 25:3 (2008), 162–177, 174. This stipulation was apparently dropped by the publication of *Unfit for the Future*.

implement the sorts of policies to tackle the ecological crisis mentioned above. This would be a more straightforward approach, which, to be clear, is not one I am advocating – it simply seems strange, given their previous commitments, that Persson and Savulescu do not take this position.

Let us give them the benefit of the doubt, however, and assume that moral enhancement is a more efficacious solution to ultimate harm than political action alone. In this case, is there any reason why *in principle* we ought to be sceptical of moral enhancement – voluntary or otherwise – to assist the kind of political action I have suggested is necessary? I want to argue that there is such a reason, drawing once more on Jonas' work and that of Jürgen Habermas.⁴⁸

5. Freedom and Dignity

Neither Jonas nor Habermas wrote about moral enhancement specifically, but both made important contributions to the ethical debates around genetic engineering which, as one of the methods envisioned, can be brought to bear on the topic. Jonas offers an 'existential critique' of genetic engineering, by which he means a reflection on what it would be like to be an engineered being, in order to reveal problems that would be raised by the practice.⁴⁹ This method leads him to make two observations: firstly that genetic engineering could undermine our existential freedom, and secondly that it would corrupt the relation between those who performed it and those who underwent it. These concerns pertain not to the physical consequences of manipulating the genome, which is not deterministic, but instead to the *significance* of such an intervention.

The first change Jonas points to is that the process of self-becoming is disrupted by the knowledge of having been manipulated in order to be a particular way. Regardless of whether that manipulation works as

⁴⁸ John-Stewart Gordon has argued that Jonas' theory of responsibility can justify a state-sponsored programme of moral enhancement. However, he is only able to make this claim by overlooking Jonas' essays on bioethics which build on his theory of responsibility, and – as I show below – preclude the possibility. Furthermore, Gordon misconstrues Jonas' philosophy of technology as instrumentalist, e.g.: 'the real danger – also according to Jonas – is the *misuse* of modern technology'. John-Stewart Gordon, 'Refined Marxism and Moral Enhancement', in Holger Burckhart and John-Stewart Gordon (eds), *Global Ethics and Moral Responsibility: Hans Jonas and his Critics* (Farnham: Ashgate, 2014), 185–208, 206.

⁴⁹ Jonas, *Philosophical Essays*, 165 (emphasis removed).

intended, *the intention itself* changes the person's self-understanding as they second-guess the authenticity of their physical or psychological being. As Jonas says, 'it does not matter one jot whether the [engineered] genotype is really, by its own force, a person's fate: it is *made* his fate'.⁵⁰ In knowing that I am intended to be a particular way I am bound to this intent, whether in conformity to it or rebellion against it. What is lost, in other words, is the spontaneity of becoming by instead measuring ourselves against a pre-established design:

[T]he sexually produced genotype is a novum in itself, unknown to all to begin with and still to reveal itself to owners and fellow men alike. Ignorance is here the precondition of freedom: the new throw of the dice has to discover itself in the guideless efforts of living its life for the first and only time, i.e., to *become* itself in meeting a world as unprepared for the newcomer as [he] is for himself.⁵¹

Note that this freedom invoked by Jonas is not the same as the 'freedom to fall' defended by John Harris, which pertains to the possibility of agency and moral responsibility.⁵² It is a different sort of freedom: the existential freedom to become oneself in the absence of an ingrained idea.

It might be objected that this would only hold in the case of persons who actually knew they were engineered. This much is true. Perhaps, then, we could morally enhance foetuses or infants; after all, if we never informed them it would thereby preserve their existential freedom through ignorance. This brings us to the second of Jonas' concerns: that genetic engineering corrupts the relation between the generations by becoming one of manipulator and manipulated. This is particularly apt given that Persson and Savulescu do in fact advocate the moral enhancement of children, with a view to taking advantage of their more malleable psychology.⁵³ Jonas' concern is that this creates an entirely one-sided control 'of present men over future men, who are the defenceless objects of antecedent choices by the planners of today. [...] [P]ower is here entirely unilateral and of the few, with no recourse to countervailing power open to its patients'.⁵⁴ Here the concern is not to do with self-understanding,

⁵⁰ Jonas, *Philosophical Essays*, 163.

⁵¹ Jonas, *Philosophical Essays*, 161.

⁵² John Harris, 'Moral Enhancement and Freedom', *Bioethics* 25:2 (2011), 102–111, 104.

⁵³ Persson and Savulescu, *Unfit for the Future*, 113.

⁵⁴ Jonas, *Philosophical Essays*, 147.

but one's objective relation to others. In my being manipulated in a particular way – again, even if not deterministically – I become the object of someone else's design. The worry is that this one-sided power relation once more undercuts freedom, although this time not of the existential sort. As Robert Sparrow says, drawing on the work of Philip Pettit, this state of affairs threatens our freedom understood as non-domination by others.⁵⁵ This is not an implausible libertarian concern for maximum negative freedom, but a weaker desire to simply be free from arbitrary subordination.⁵⁶

The proponent of moral enhancement could argue that we regularly engage in a practice which conforms to this type of power-relation, one that we not only tolerate but actively champion: education. In both education and moral enhancement one person seeks to inform the character and values of another, so if the former practice is permitted presumably the other should be also. Drawing this comparison, Persson and Savulescu say that '[t]here is no reason to assume that moral bioenhancement to which children are exposed without their consent would restrict their freedom and responsibility more than the traditional moral education to which they are also exposed without their consent'.⁵⁷ To challenge this equivalence I turn to Habermas, who addressed it by building on Jonas' insights.

Habermas notes that education and genetic engineering in fact embody fundamentally different principles: the former operates according to the discursive principles of communicative rationality, and the latter according to the technical principles of instrumental rationality.⁵⁸ What this means is as follows. Education, relying as it does on sensible communication, presupposes the *mutual capacity for reason*. Even if the pupil does not at the time understand the reasons behind a particular lesson, as a rational being in development they are in principle able to – and in time hopefully will – comprehend those reasons. When they do, they are then free to accept or reject those reasons. This shared ground allows for a fundamental equality between agents despite the asymmetry inherent in the practice of education. As

⁵⁵ Robert Sparrow, 'Better Living Through Chemistry? A Reply to Savulescu and Persson on "Moral Enhancement"', *Journal of Applied Philosophy* 31:1 (2014), 23–32, 27.

⁵⁶ Philip Pettit, *Republicanism: A Theory of Freedom and Government* (Oxford: Oxford University Press, 1997), 21–27.

⁵⁷ Persson and Savulescu, *Unfit for the Future*, 113.

⁵⁸ Jürgen Habermas, *The Future of Human Nature*, trans. by Wilhelm Rehg, Max Pensky, and Hella Beister (Cambridge: Polity Press, 2003), 61–64.

Habermas says, ‘expectations underlying the parents’ efforts at character building are essentially “contestable” [...] the adolescents in principle still have the opportunity to respond to and retroactively break away from it’.⁵⁹ Indeed, one might go so far as to say that developing the ability to question what one has learned – to think for oneself – is an objective of education. However, this is not required for the present point. Even in instances where learning to think for oneself is not an objective of the educator, the nature of education itself means the content can always be subsequently contested, as Habermas’ own schooling in Nazi Germany starkly demonstrates.

By contrast, genetic engineering lacks the mutual ground of reason which allows for equality between participants. Instead, as a technical procedure carried out on the child as an object, the manipulation makes retrospective disagreement impossible:

With genetic enhancement, there is no communicative scope for the projected child to be addressed as a second person and to be involved in a communication process. [...] It does not permit the adolescent looking back on the prenatal intervention to engage in a *revisionary* learning process. *Being at odds* with the genetically fixed intention of a third person is hopeless.⁶⁰

The difference in principle, therefore, is that the power-relation of genetic engineering is not only unilateral but also incontestable: the child is bound to an intent from which they cannot be released. Habermas himself does not consider this a problem if the child subsequently ‘affirms’, or identifies with, the intent behind the intervention.⁶¹ One could go further, however, and argue that whatever the child’s appraisal of the intervention turns out to be, the intervention *itself* curtails freedom insofar as the child is aware that invasive and domineering biotechnological means, rather than readily available reflexive and communicative ones, were chosen by their predecessors.⁶² There is, as Habermas says, no scope for autonomous contestation of the former. By contrast, education, courtesy of its basis in rational

⁵⁹ Habermas, *The Future of Human Nature*, 62.

⁶⁰ Habermas, *The Future of Human Nature*, 62.

⁶¹ Habermas, *The Future of Human Nature*, 61.

⁶² Persson and Savulescu do not even think it likely that an enhanced child would be at odds with the intervention: they speculate, outlandishly, that ‘[i]t is quite unlikely that later in life the morally bioenhanced individuals will regret the fact that they have undergone this treatment, since otherwise they might have been criminals who would have been punished and condemned by society’. Persson and Savulescu, *Unfit for the Future*, 113.

communication, possesses an inherent reflexivity and thereby presupposes freedom as non-domination. Education is for this reason different in kind, and not simply degree, from cognitive or moral enhancement.

Here Persson and Savulescu fundamentally disagree. They claim ‘common sense and science’ tell us that ‘it is surely evident that when small children are taught language, religion, basic moral rules, or whatever, this education is just as effective, irresistible, and irrevocable as biomedical intervention is likely to be’.⁶³ In fact common sense tells us no such thing, for the reasons provided by Habermas. Even education as fundamental to psychological development as religion, moral rules, or metaphysical beliefs can be questioned and rejected (although whether fundamental moral rules *should* be questioned and rejected is another matter). The reason, in short, is that critical reflection breaks the ‘quasi-natural’ status of educative content: even if it is subsequently accepted, one’s relation to the content is altered through contestation.⁶⁴ The most obvious exception is language, which holds a unique status due to its hermeneutic centrality: it is the foremost ground on which understanding occurs, allowing subsequent learning to take place.⁶⁵ The first language learned, one’s mother tongue, is incomparable even with additional languages which are learned on the basis of the first. Even so, in grammar language possesses an internal logic which allows its usage to be refined or mastered, including in opposition to the way one was taught, thus preserving the fundamental symmetry of a shared rational ground. Moral enhancement, as a unilateral and incontestable intervention, therefore remains qualitatively distinct.

6. Conclusion

What, then, is the scope of these objections raised by Jonas and Habermas? What do they rule out, if accepted? The threats to existential freedom and freedom as non-domination apply most obviously to compulsory moral enhancement, which would involve an alien intention almost by necessity. According to Michael Hauskeller the

⁶³ Persson and Savulescu, ‘The Art of Misunderstanding Moral Bioenhancement’, 52.

⁶⁴ Jürgen Habermas, *On the Logic of the Social Sciences*, trans. by Shierry Weber Nicholsen and Jerry A. Stark (Cambridge: Polity, 1988), 168.

⁶⁵ Hans-Georg Gadamer, *Truth and Method*, 2nd edn, trans. by Joel Weinsheimer and Donald G. Marshall (London: Continuum, 2004), 390.

latter could also apply to voluntary enhancement, or enhancement of oneself (“auto-enhancement”). Extending Habermas’ argument he claims that the relation corrupted in voluntary enhancement would not be between self and other, but between one’s past and present. The intention would belong to the past self and bind the present self, thus exerting a unilateral and incontestable control from which the latter cannot escape:

The event would be similar to the case where someone voluntarily signed a contract that made them a slave for the rest of their lives. Although they would have freely chosen to be a slave, once a slave they would no longer have the choice not to be one, and it is not an uncommon intuition that *therefore* it is wrong (and should not be permitted) to make such a choice.⁶⁶

The worry is not that one might regret the decision to have undergone moral enhancement, but that the individual is beholden to that decision whether they regretted it or not. In this way voluntary or self-enhancement appears to parallel the threat to freedom as non-domination.

However, the concern raised by Hauskeller regarding the domination of one’s present by one’s past applies most forcefully to genetic engineering, and less so to the other method envisioned by Persson and Savulescu, namely, pharmaceutical means.⁶⁷ Whereas in genetic engineering the intention is engraved in the genome for posterity, oxytocin or selective serotonin reuptake inhibitors (SSRIs) could conceivably be intended for merely short-term effect. To be sure, any *compulsory* moral enhancement via such drugs would still threaten freedom as non-domination, but their voluntary and temporary usage alone might evade the concerns raised about being incontestably beholden to one’s past decision. Provided that the effects of this sort of moral enhancement were short-lived, it might be comparable less to voluntary enslavement and more to being under the influence of recreational drugs taken with an express purpose in mind, such as spiritual insight or artistic inspiration. This is clearly a vague suggestion (how short is an appropriately short length of time?), but given that in some nations and cultures the usage of hallucinogens is acceptable under such conditions, a moral enhancement of this sort might be also.

⁶⁶ Michael Hauskeller, ‘Is it Desirable to Be Able to Do the Undesirable? Moral Bioenhancement and the Little Alex Problem’, *Cambridge Quarterly of Healthcare Ethics* 26:3 (2017), 365–376, 374.

⁶⁷ Persson and Savulescu, *Unfit for the Future*, 118–121.

Therefore if a version of moral enhancement is possible which bypasses the concerns raised by Jonas and Habermas it would be voluntary and short-term enhancement via pharmaceutical means.⁶⁸ Now, it may be that additional arguments motivated by other concerns, such as Michael Sandel's virtue-based case against the drive to mastery, would also rule out this form of moral enhancement – I here leave the possibility open.⁶⁹ More pertinent is that voluntary pharmaceutical moral enhancement, even if permissible, is likely to be woefully insufficient for the stated purpose of confronting the systemic threat of the ecological crisis. As explained above, generating the necessary will to politically challenge the relevant aspects of technological civilisation would require that moral enhancement was undertaken on a mass scale, which seems highly improbable on a voluntary basis.

The proponent of moral enhancement who was unsatisfied with this conclusion might yet endorse its application in spite of the objections discussed. They could bite the bullet and argue that the risk of ultimate harm is simply so great that by any measure it outweighs concerns about the threats to existential freedom and freedom as non-domination. However, doing so would come at a cost even on their own terms. Ultimate harm, we recall, was defined by Persson and Savulescu not simply as 'forever destroying life on Earth', but also 'making *worthwhile* life forever impossible on this planet' – thereby pertaining to a qualitative and not merely quantitative loss. Runaway climate change or nuclear war would almost certainly result in the impossibility of worthwhile life, and perhaps even the impossibility of life itself. But something of the former, qualitative loss might also hold true of compulsory moral enhancement, particularly if carried out through biotechnological manipulations of the human germline. There is a real harm done to our lives in any form of moral enhancement which restricted our existential freedom or freedom as non-domination. Not an ultimate harm, it is true, but a

⁶⁸ I should emphasise that this judgement chiefly applies to the arguments presented by Habermas in *The Future of Human Nature*. According to Ehni and Aurenque, Habermas' wider body of work would appear to permit other forms of moral enhancement, specifically that proposed by Thomas Douglas. See Hans-Joerg Ehni and Diana Aurenque, 'On Moral Enhancement from a Habermasian Perspective', *Cambridge Quarterly of Healthcare Ethics* 21:2 (2012), 223–234, 232.

⁶⁹ Michael J. Sandel, *The Case Against Perfection: Ethics in the Age of Genetic Engineering* (Cambridge, MA: Harvard University Press, 2007) 27, 46.

Lewis Coyne

significant one nonetheless, which even those who otherwise advocate moral enhancement may not wish to sacrifice.

Through Jonas' insights, supported by Habermas', we are first of all alerted to the precise nature of the ecological crisis as a technological harm, and secondly to the technological harm present in those forms of moral enhancement involving either genetic engineering or compulsory/long-term application through pharmaceutical means. On this basis we arrive at something like the reverse of Persson and Savulescu's conclusion: rather than being unfit for the future without moral enhancement to save us, moral enhancement could itself create a future unfit for ourselves. By this I mean that what is most valuable about human beings – our freedom and the dignity it bestows, perhaps – deserves a future which allows it to flourish. The prospect of moral enhancement, at least as envisioned by Persson and Savulescu, is by that measure an unfit future.

Acknowledgements

I am grateful to Michael Hauskeller and Cameron Hunter for comments on earlier drafts of this essay. This work was supported by the Economic and Social Research Council.

University of Exeter
lc453@exeter.ac.uk