Feeling more like myself

DONNA DICKENSON ASKS, DO WE HAVE A DUTY TO ENHANCE OURSELVES?

Speculative "enhancement" technologies are premised on the idea that we have a duty to create the best Me that I can possibly be. These technologies include human growth hormones, specialised prosthetic devices, neurocognitive stimulation techniques, "genetic doping" in sport, drugs to enhance mental functioning and genetic manipulation – either affecting your own body, or, more controversially, also affecting your descendants.

The 2011 film *Limitless* asked what would happen if "smart drugs" allowed us to use 100 per cent of our brains 100 per cent of the time. (The results weren't pretty.) Outside the cinema, enhancement technologies are nothing like as far advanced as proponents claim. What we do know indicates there's no such thing as a free lunch. Modafinil, for example, enhances alertness on some tasks but worsens it on others. The dopamine agonist bromocriptine improves performance on "executive-function" tasks for individuals with lower working memory capacity than average, but actually impedes it in people with higher memory capacity. Genetically modified mice have better memories but feel more sensitivity to pain.

James Watson of double helix fame famously remarked, "If you could cure what I feel is a very serious disease – stupidity – it would be a great thing for people who are otherwise going to be born seriously disadvantaged." Yet cluttering the mind with every experience that we ever underwent could actually impair our mental functioning. The famous neurologist A R Luria had a patient called Shereshevskii, who could remember vast reams of facts but couldn't process any new information. The only work he was fit to undertake was as a performing "memory man" on the stage, the equivalent of "Mr Memory" in the classic film *The Thirty-Nine Steps*.

To assume that bigger is always better is no more true of our minds than of strawberries, where the giants are usually woolly and bland. But "more is better" – faster mental processing, more memory capacity, longer periods of concentration – does seem to be an assumption frequently indulged in by proponents of cognitive enhancement. That might be all very well when you're buying a new computer, but it doesn't necessarily work for human intelligence. Indeed, the French philosopher Michèle le Doeuff questions whether intelligence is an endowment of nature or an attribute of our own making, created through our life experiences.

With the exception of a few drugs like Adderall and Ritalin, some off-label, neurocognitive enhancers are not yet in widespread use. They don't come anywhere near meeting the research gold standard, meta-analysis of many randomised clinical trials. There is professional disquiet about premature guidelines for prescribing before the drugs are thoroughly studied.

Successful genetic engineering, in terms of transgenes transmitted to future generations, is limited to one monkey in one study with a huge attrition rate. While there are alternative techniques for genetic engineering such as PGD (pre-implantation genetic diagnosis), that would require IVF (in vitro fertilisation) to become a routine procedure (and to improve its current success rates vastly). Proponents of genetic engineering radically underestimate the barriers posed by the realities of reproductive medicine, especially the burdens that genetic engineering of future generations would place on women.

The most succinct summary of the enhancement evidence base is that it's very much like the man upon the stair: The other night upon the stair/ I met a man who wasn't there./ He wasn't there again today." Of course the next line is: "I really wish he'd go away!"

But from a philosophical point of view, would enhancement technologies be ethical if they were scientifically proven? Could it actually be unethical *not* to take advantage of them? Some pro-enhancement writers argue that in addition to perfecting ourselves as much as we can, we also have an obligation to produce the best children we can – what Julian Savulescu calls the duty of "procreative beneficence". Those who argue in this vein don't just want to prevent disease, as PGD already allows us to do in some cases, but to engineer the ideal child. Yet even in disease prevention, we face the problem that most genetically linked disease is associated with several genes rather than one.

Savulescu surmises that once couples have decided to use IVF to eliminate serious disease, they would be more willing to employ it to engineer desirable non-medical traits. But a survey of 1,000 parents attending a genetic counselling clinic showed that only thirteen per cent would test their IVF embryos for non-disease-related conditions such as intelligence and height, compared to the very large majority who preferred to test for disease-linked genes only. At the back of these parents' minds may be something like this argument: while it doesn't invade the autonomy of your child to prevent her from being born with a fatal disease, designing a child to manifest particular traits is another matter.

While proponents of enhancement use autonomy-based arguments against any state interference with parents' "reproductive freedom", opponents of transgenerational genetic engineering also rely heavily on the language of

individualism and autonomy, but to a different end. Jürgen Habermas argues that one generation's attempts at genetic engineering affect the next generation by reducing "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 of being the undivided author of his own life". This also brings up questions of identity, agency and authenticity.

If enhancement technologies ever actually achieved what's already being claimed for them, would they really create "the best Me I can possibly be"? Or would that "better" individual actually be someone else – not "Me" any longer? Even if the transformation weren't so profound as to threaten my core identity, perhaps the fact that I'd relied on drugs to improve my intelligence would mean that I can't now claim the credit for being smarter: it's not through my agency, but that of the drugs. After all, athletes who are found to have taken performance-enhancing drugs can lose their medals on similar grounds.

However, Einstein, like any good Swiss, presumably enjoyed *Kaffee* with his *Kuchen*. It's never been suggested that he should be stripped of the "genius" label on the grounds of his caffeine consumption. Isn't caffeine also a neurocognitive enhancer? So what's the difference, except that caffeine is more widely used?

Advocates of enhancement sometimes extend this argument to any social institution whose goal is to improve human productivity, awareness or intelligence – including education, agriculture and legal systems. If benefiting from these is permitted, even admired, then what's wrong with using modern neurocognitive technologies to achieve the same ends? One answer is that this is to include so much under the rubric of "enhancement" as to render the term meaningless. Another is that these are actually social systems and communal achievements, whereas enhancement is defined very much in individual terms.

Erik Parens believes that both opponents and proponents of enhancement share the same ideal of human flourishing – bringing out our best, most authentic selves – but define authenticity differently. Yet is being true to yourself necessarily the highest value? Why equate "best" and "most authentic" selves? Are we so narcissistic that we feel our true selves are our enhanced ones? As one woman exclaimed after her "extreme makeover" operation, "Oh my God, I finally look like me!"

In his book *Better than Well*, Carl Elliott likewise explores the link between enhancement and cosmetic surgery, whose devotees often say it makes them feel *more like* themselves, not just *better about* themselves. But if cosmetic surgery is anything to go by, rather than promoting individualism, enhancement could lead to a different kind of uniformity. The universal obsession in the pro-enhancement literature with a rather superficial measure of intelligence or memory expansion, for example, very much resembles the way in which cosmetic surgery has promoted one cookie-cutter ideal of look-alike beauty.

What's crucial about our mental states, good or bad – according to some critics of enhancement like Carl Elliott – is that they genuinely belong to us. By taking Prozac, this argument might run, we're not being authentic to our true selves: instead, we allow ourselves to become alienated from our genuine identities. This existentialist style of critique presumably sees indulging in neurocognitive enhancement as akin to Sartrean "bad faith".

An extreme example of the way in which selfhood is actually undermined by neurocognitive technologies is the operator (or operatee?) of a brain-machine interface (BMI), for example a soldier controlling a drone aircraft. "If you are controlling a drone and you shoot the wrong target or bomb a wedding party, who is responsible for that action? Is it you or the BMI?" asks Rod Flower, chair of a 2012 Royal Society working party on neurocognitive technology and the military. "There's a blurring of the line between individual responsibility and the functioning of the machine. Where do you stop and the machine begin?"

Those favourably disposed towards neurocognitive enhancement view our identities as malleable and capable of improvement, while still remaining truly ours. As Allen Buchanan puts it, "Instead of arguing that enhancement is too risky to our character, why not proceed in the opposite direction and argue that given how deficient our character is, we may need moral enhancement technologies?" If we did succeed in remaking human nature to that extent, however, could we predict whether it would be for better or for worse? Buchanan acknowledges our poor track record in making decisions that actually benefit ourselves, but considers that to be an argument *for* rather than against enhancement. In terms of our manifold cognitive biases and judgemental errors, things can only get better, he thinks.

The difficulty here is that it's our muddle-headed present selves who are in charge of designing the "enhancements". You remember them: the ones whose thinking is so foggy that they need radical help, possibly extending irrevocably even to the genomes of their descendants. They're also the ones who are so prone to look for a technological fix when things go wrong – and enhancement is nothing if not a technological fix. Buchanan appears prey to that reasoning himself, as when he suggests that one genuine enhancement would be the ability to tolerate more extreme fluctuations of climate and temperature caused by global warming. The obvious retort is that it would be better to make a last-ditch stand against global warming, rather than trust in the technological hubris that got us into this mess to get us out again.

There's a similar but perhaps even more troubling question about our inability to predict not just the cognitive make-up of the "transhumans" or "posthumans" who could supposedly be created by such massive interventions, but also their moral sensibility. What if rather than being closer to our authentic selves, the enhanced turned out to have a set of values hostile to our own? Critics of enhancement, such as Annas, stress the likelihood that the enhanced would constitute a powerful new social elite and the risk that they would have little regard for the unenhanced underclass.

Buchanan notes that we can't know whether this would happen: "Even if biotechnology eventually yields enhancements that are so radical as to call for a new, higher moral status category for the enhanced, the moral status of the unenhanced would not *thereby* be diminished." That's perfectly plausible in terms of our existing concept of human rights as universal, but we can't predict what judgements about moral status the "posthumans" might make. Given that they've been engineered to be "superior", they might not be all that charitable.

Even if "posthumans" turned out to be as nice as pie, some critics, including George Annas

and Francis Fukuyama, argue that creating them would be nothing less than a crime against humanity, even "genetic genocide". By irrevocably altering the essence of what it means to be human, they say, a unique offence has been committed not just against individuals, but against human nature and *homo sapiens* as a species.

But although the argument from human nature and the natural is common, I agree with Buchanan that it's weak. It's natural for a very large proportion of babies to die before the age of one, but we try to do something about it. For advocates of enhancement to argue that we should likewise try to improve on our natural lifespan or our natural propensity to violence isn't unreasonable in itself. What just comes naturally can be good or bad.

I'm more inclined towards two other arguments against the race towards enhancement:

- Concentrating on enhancement technologies increases *distributive injustice;*
- Concentrating on enhancement technologies alters *personal and social relationships for the worse*.

Note that unlike Fukuyama's or Annas's arguments, neither kind of claim assumes that enhancement technologies will actually *succeed*: the *attempt* is bad enough. By diverting scarce medical resources from public health measures, spending money on enhancement research increases distributive injustice on both national and global levels. By trying to control our children's genetic makeup rather than accepting them for what they turn out to be, we violate the Kantian categorical imperative by treating them merely as means to the end of their own improvement, or rather our vision of it.

In *Just Health* Norman Daniels argues that placing enhancement on an equal resource footing with therapy worsens injustice for those who have the misfortune to suffer pathologies that impair their normal functioning. To the pro-enhancement argument that genetic fate affords some people better life-chances than others anyway, and that enhancement merely builds on that kind of natural difference, Daniels replies the notion of fair shares demands that we should do our best to lessen the ill-health and ill-chance suffered by those who have to endure conditions that diminish their chances of living a more normal life.

In general, the "it-happens-already" style of argument is weak: it's a form of the naturalistic fallacy, the illicit jump from "is" to "should". Saying that a phenomenon exists doesn't tell you anything about whether it should be tolerated. We don't accept that because murders happen already, and will continue to happen whatever laws are enacted, we shouldn't bother trying to outlaw murder.

The second argument against enhancement technologies – that pursuing them might alter personal and social relationships for the worse – is hotly contested terrain, with pro-enhancement writers such as Thomas Douglas pursuing a counter-strategy by claiming that our capacity for productive and peaceful relationships could be vastly improved through "moral enhancement". Indeed, some writers assert that without "moral enhancement", cognitive enhancement could actually be dangerous.

In Aldous Huxley's *Brave New World*, moral insight has been enhanced as straightforwardly as laser eye surgery can now improve physical eyesight. Rather than wearing their moral beliefs

on their sleeves, denizens of the future carry them around in the form of "soma" tablets. As the character Mustapha Mond explains, "Anybody can be virtuous now. You can carry at least half your morality round in a bottle. Christianity without tears – that's what soma is."

But here in our boring old world, hopes for "moral enhancement" lack a medical evidence base. While there is some work on the way in which neurochemical transmitters such as serotonin and oxytocin favourably affect people's perceptions of fairness and trust in social situations, that research isn't yet at the stage of clinical trials to determine whether these substances could be administered as the equivalent of "soma" tablets. We don't even know whether such trials are possible in principle, because the precise neural mechanisms underlying the relationships between neurotransmitters and prosocial behaviour remain unclear.

The neuropeptide oxytocin, released during pregnancy, lactation and childbirth, is a particular favourite among "moral enhancers", who point to its supposed role in making people more cooperative. Of the 75 references in the Cochrane Library to meta-analyses evaluating the function of oxytocin, none substantiates this purpose. However, there has been military interest in using oxytocin to interrogate detainees and prisoners – probably not the use that would-be "moral enhancers" have in mind.

While the lack of an evidence base very much undermines the position of those who think "moral enhancement" is the way of the future, anti-enhancement arguments about harmful effects on relationships don't depend on whether such techniques have actually succeeded. It's trying to use them to alter others that's wrong, whether those others are alive now or yet unborn.

I'm certainly not arguing that enhancement is simply eugenics by another name – even though the enhancement advocate Nicholas Agar has defiantly called his book *Liberal Eugenics* – because it's not coercive. The closest that pro-enhancement writers come is the assertion that enhancement is a moral duty. But there is a logical similarity: what's (deeply) wrong about eugenics isn't mitigated by the ultimate failure of large-scale eugenic programmes such as the Holocaust or sterilisation campaigns against the "feeble-minded". Similarly, the *attempt* at enhancement – particularly transgenerational genetic engineering – is wrong, whether or not it's possible or successful, because of its manipulative attitude towards other (potential) persons.

Concern about control and manipulation is a separate worry from the fear that allowing parents absolutely free rein to enhance their children would result in one class of "Superpersons" and a new *Lumpenproletariat* of the unenhanced. Again, that criticism is only telling if transgenerational genetic engineering actually *works*. But even though it doesn't, it's still wrong to enter into parenthood with the kind of controlling attitude that transgenerational genetic engineering would imply. While I don't believe that any of us ordinary parents, not being saints, can manage fully unconditional love, I think we ought to try.

Donna Dickenson is emeritus professor of medical ethics and humanities at Birkbeck, University of London and research associate at HeLEX (centre for health law and emerging technologies) at the University of Oxford. Her newest book is *Me Medicine vs. We Medicine: Reclaiming Biotechnology for the Common Good* (Columbia University Press, 2013).