

Let's now turn to the idea of more radical enhancements. So what if there were a drug that could extend the average lifespan of a human to 200 years, average IQ to 300, cut the amount of sleep we need in half? Imagine it's extensively tested, proves to carry very low risk.

Now, lots of people I talked to about this say, sign me up. But plenty express profound reservations. So let's take a look at what we should think about this.

Well, some who are uneasy about them question whether maybe we're being a little greedy. The best that human life offers, something not everyone gets, is an amazing and wonderful gift. But this may be an instance of what's called the status quo bias.

If you lived in a future where humans already routinely live for 200 years and have triple the IQ, you'd look back on early 21st century humans and see them as diseased and deprived, just as we view humans, potentially, living 10,000 years ago with their average lifespan of 30 years. If it's good that medicine and other technologies have improved since then, wouldn't it be just as good to keep improving us?

For others, it's the idea of our intentionally making those changes as opposed to leaving it up to evolution. If we were supposed to live that long, be that cognitively fast, sleep that little, wouldn't we be designed that way?

But this may reflect a very misleading conception of evolution. So let's remember, evolution optimizes on conditions that may no longer be relevant.

For instance, our sweet tooth was adaptive in the Pleistocene when the high-calorie foods were scarce and the compulsion to eat as much as you could see could really help you survive. But what was adaptive then can be very maladaptive in today's world, contributing to the obesity epidemic experienced in many countries.

Evolution doesn't optimize at all over post-reproductive features. The reason our bodies start falling apart after 40 is because we're no longer reproducing in large numbers past that age. So evolution doesn't care.

Plenty of our features aren't optimized in any sense. Our biology is the result of many accidents and genetic quirks.

Unlike most mammals, for instance, we don't synthesize our own Vitamin C. And that's due to a mutation that happened 40 million years ago that happen to inactivate a gene that produced a specific enzyme.

And fourth, where evolution does optimize, making us naturally fit, that fitness isn't always good. As the philosopher Nick Bostrom puts it, "Evolution doesn't care about human happiness." He says, "A capacity for rape, plunder, cheating, and cruelty might well have been evolutionarily adaptive, but they've had disastrous consequences for human welfare."

In other words, while some people refer to evolution as a master engineer, it's, as Alan Buchanan puts it, a little more like a blind, morally insensitive tinkerer.

Well, here's a different worry, not one about meddling with evolution, but about whether these radical enhancements would really be good for us. Is more always better? Would living to 200 or needing half the sleep really make us happier?

We might find out those enhancements had unanticipated downsides. Perhaps increased cognitive speed would crowd out creativity. Maybe having better impulse control would make people more submissive. Maybe never needing to sleep would be accompanied horrible boredom.

Enhancing our capacities doesn't always enhance our well-being. These issues, at bottom, are epistemic worries. We remember a word that talks about our state of knowledge.

Ultimately, it's an empirical question whether those sorts of enhancements would really increase our well-being. Others would say, given this fact, that what we should do is let some hardy souls try the experiment and find out. After all, some people thought universal literacy was a dangerous idea at one point.

A final set of issues returns us to social consequences, concerns about social justice. The worry here is that radical enhancement risks radical inequality. So if radical enhancements do turn out to make people genuinely better off when they have them, there's good reason to worry about a class division between the enhanced and normals increasing the upper bound of well-being and sort of stretch the

inequality gap.

So what if only the rich had access to the enhancements? Not only would they live longer, think faster, sleep less, but since those are socially valuable, they would likely accrue even further advantages. Why would an employer ever choose to hire a nonenhanced applicant over one who thinks twice as fast and needs half as much sleep?

Well, why do we care about inequality? Better, which inequalities do we care about? I ask because we need to think carefully about trade-offs.

The plain fact that an improvement won't be equally enjoyed doesn't mean we don't pursue it. Technology and lifesaving medical advances are often unequally distributed. But if they do enormous good for many, we may well pursue them.

Indeed, a crude view about the kind of equality worth pursuing is subject to what's called the leveling down objection. If all we cared about was equality of distribution, we could achieve it by bringing everyone down to the level of the worst off.

So we don't want equality in that crude sense. What kind of equality do we want then?

Well, what we don't want are inequalities that allow one class of people to dominate another, inequalities that break down social solidarity, inequalities where the access to the levers of political and economic power are concentrated in the hands of a few. And these are already worries, even in countries whose citizens are roughly equally vulnerable to death and disease and roughly equal in their cognitive abilities and biological needs.

Add radical enhancement into the mix, and the possibilities for political and economic domination might truly increase. And since norms are often determined by the elites, the laws and institutions might be crafted to meet the needs of the enhanced, further undermining the ability of the "normals" to do well.