



The Stoic Sage 3.0 – A Realistic Goal of Moral (Bio)Enhancement Supporters?

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Abstract

I propose to show that any direct moral bioenhancement procedures that could be realized within a relatively short period of time are not realistic options. This does not have to worry us, however, because alternative options for promoting morality are available. Consequently, moral bioenhancement is not an option for dealing successfully with the increased potential destructiveness of contemporary technologies within a short-term framework, i.e. within this century. In what follows, I will explain why this is the case, and why, contrary to Ingmar Persson and Julian Savulescu, I think this need not worry us too much. In section 1., I will critically analyze moral bioenhancement by means of citalopram, aimed at reducing the tendency to harm others directly. I give this prominence because it could be a practical option for altering human emotions and dispositions – to my mind, it seems the most promising practical option in this field. In later sections, I will consider other means of realizing moral bioenhancement, since the first option does not do the job it is supposed to, and because Persson and Savulescu are concerned with alternative approaches.

Introduction

Let me begin by affirming that I am no enemy of enhancement procedures in general. I regard genetic enhancement, morphological enhancement, cyborg enhancement, and pharmacological enhancement as extremely promising fields of enquiry, insofar as they may promote intelligence, memory, the health span, or beauty – characteristics that often contribute to a good life (Sorgner 2010, 85–100). These enhancement technologies can also be seen as promising ways to enhance morality indirectly. However, the issue is different with direct moral bioenhancement (Douglas 2011), particularly when it is supposed to solve the increased potential destructiveness of contemporary bio- and other technologies.

In their recent collaborative work, Ingmar Persson and Julian Savulescu suggest the need for moral bioenhancement, claiming that increasing technological possibilities will promote the likelihood of humanity's destruction, since there might be madmen who will use advanced technology for this purpose (e.g. Persson and Savulescu 2012, 46–59). Their main foci are not methods of indirect moral enhancement, such as education and promoting cognitive capacities. They affirm the use of these

technologies, too, but do not seem to regard them as effective. In a paper from 2013, they claim, “the degree of moral improvement since the time of Confucius, Buddha and Socrates has been... small in comparison to the degree of technological progress, despite moral education,” which seems to imply the ineffectiveness of traditional ways of promoting morality (Persson and Savulescu 2013, 130). Consequently, they are interested in finding more effective means of promoting morality, and they focus on direct moral bioenhancement. In an earlier paper they even argue in favor of moral bioenhancement that would be “obligatory” – by analogy to “education or fluoride in the water.” As they express it, “safe, effective moral enhancement would be compulsory” (Persson and Savulescu 2008, 174).

I am more hesitant about moral bioenhancement, because I regard it as, for practical purposes, a highly problematic technology. In any case, I do not regard it as an option for dealing successfully with the increased potential destructiveness of contemporary technologies within a short-term framework, i.e. within this century. In what follows, I will explain why this is the case, and why, contrary to Persson and Savulescu, I think this need not worry us too much. In section 1., I will critically analyze moral bioenhancement by means of citalopram, aimed at reducing the tendency to harm others directly. I give this prominence because it could be a practical option for altering human emotions and dispositions (Crockett et al. 2010a, 2010b) – to my mind, it seems the most promising practical option in this field.¹ In later sections, I will consider other means of realizing moral bioenhancement, since the first option does not do the job it is supposed to, and because Persson and Savulescu are concerned with alternative approaches.

I propose to show that any direct moral bioenhancement procedures that could be realized within a relatively short period of time are not realistic options. This does not have to worry us, however, because alternative options for promoting morality are available.

1. Moral bioenhancement by means of citalopram

In what follows, I treat moral bioenhancement as related to the reduction of direct harm done to individuals, as this seems to me the most promising approach to altering human emotional tendencies, especially in light of Molly Crockett’s research on serotonin (Crockett et al. 2010a) and the heated debate it inspired. Crockett gave citalopram to research subjects, altering their level of discharge of serotonin. Then she and her colleagues checked how the level of serotonin affected their reaction to the “fat man” version of the notorious Trolley Problem (see, e.g., Thomson 1976, 204–217) and the Ultimatum Game (see Güth, Schmittberger, and Schwarze 1982). According to Crockett and her team, the results show that the higher the level of discharge of serotonin, the lower the inclination of the test takers to inflict harm directly on other individuals. Even though the effect described is a mild one, it has promoted considerable discussion around the possibility and desirability of moral bioenhancement. If it is seen as morally wrong to inflict direct harm on individuals, then a lower inclination to do so can be interpreted as a moral enhancement. If technological intervention to that end works in principle, then the likelihood is high that further research will lead to more efficient methods.

Doubts have been raised concerning Crockett’s interpretation, for instance those of Harris and Chan (2010). They have criticized Crockett for identifying as a moral enhancement a reduced inclination to sacrifice a fat man to save five other human beings who would otherwise be killed by a runaway trolley. As Harris and Chan make clear, from a utilitarian standpoint this does not count as a moral improvement. They also point out that if Jasper Schuringa had possessed a higher level of discharge of serotonin, he probably would not have stopped Umar Abdul Mutallab, the so-called Underwear Bomber, from setting off a bomb on December 26, 2009. Schuringa would have had a reduced inclination to harm an individual, thus inhibiting him from acting against the bomber. But stopping the bomber was clearly the morally justifiable course.

In the following sub-sections, I will deal with two options for implementing this type of moral bioenhancement: legal obligation and personal free choice. Each of these options has problematic implications.

1.1 Moral (bio)enhancement as legal obligation

One way to argue in favor of moral bioenhancement as a legal obligation is by analogy with vaccinations. Even though this analogy works in many respects, it fails with respect to a central premise. Health is a state that is in the interest of most human beings. This does not apply to a reluctance to directly harm an individual human being, the sort of bioenhancement that we are considering at this point. Indeed, under some circumstances harming an individual could be a morally justifiable act, maybe even a politically necessary one. To guarantee the state's inner and outer security, a police force and an army are needed; within certain limits, these have the right and the need to use force against individuals. The same applies to other people who find themselves in situations where force is needed; the case of Jasper Schuringa and the Underwear Bomber is only one extreme example.

There are also many everyday examples, such as the need to use force against violent youth who act aggressively against the elderly or the vulnerable. Such examples show why it cannot be in the interest of a country to render moral bioenhancement technologies legally compulsory, because this might, in the end, endanger the very existence of the state. For example, non-morally-enhanced citizens from other countries might visit State Y, where it is compulsory for citizens to become morally bioenhanced. There could, accordingly, be outsiders who endanger the internal order of State Y by violent acts, fraud, robbery, or other crimes. State Y could also risk being invaded by rival countries whose soldiers are not morally bioenhanced. Again, morally bioenhanced soldiers with a heightened tendency not to harm other individuals directly will not be able to fulfill their duties adequately, thus possibly endangering the state's existence. Due to the risks to inner and outer security associated with moral bioenhancement technologies, living within a legal jurisdiction where these technologies are legally compulsory is not in the interest of most human beings. Leading a good life usually requires a safe environment; a state in which inner and outer security are at risk does not provide such an environment.

1.2 Moral (bio)enhancement as free choice

Would voluntary moral bioenhancement be of interest to individual consumers? The easiest case would be one where somebody simply wishes to reduce her tendency to harm others directly. However, I doubt that this would apply straightforwardly to all, or even many, people, since acts of harming are so widespread and can be important means to protect a variety of human interests. One interest individuals could have in being morally bioenhanced would be to avoid sanctions for immoral and illegal behavior. This case is well represented by a repeat criminal offender: for example, a serial rapist who is offered freedom if he is willing to undergo a form of moral bioenhancement such as chemical castration. The motivation of the offender to choose moral bioenhancement is to avoid the sanction of imprisonment. Even so, the procedure is not necessarily in his interest,² since sexual intimacy is central to his well-being and he is thus sacrificing a part of his well-being to avoid being imprisoned. It is even possible to imagine violent offenders who connect acts of brutality with their personal conceptions of a good life. This is in no way a defense of their anti-social behavior, but it vividly illustrates that there can be, and usually is, a gap between the moral life, judged from outside, and someone's idiosyncratic conception of a good life. While acknowledging the validity of this insight, we can, of course, also affirm that living in a society means that one has to limit one's possibilities for living as one chooses.

Alternatively, what about the case of a religious believer, Z, who is threatened with eternal torture if she acts immorally? Z holds that, by conforming to her faith's moral requirements, she can increase the likelihood of having a blessed afterlife. In her current life, however, when she feels she is being unfairly treated she lashes out with attacks that are (let us stipulate) legally and morally forbidden. Accordingly, she decides to reduce the risk of being sanctioned by the criminal justice system, and especially in the afterlife, by undergoing moral bioenhancement. On the one hand, her aggressiveness is a positive for her because it proves she is strong and, therefore, it is connected to her feeling of well-being.³ At the same time, her aggressive acts are forbidden. Her ideal of a good life – one involving mastery and strength – is essentially connected with her aggressive inclinations. This ideal is curbed

by living in a society and by her religious understanding that she will be tortured in the afterlife for aggressive behavior.

It seems clear that some people might decide to undergo moral enhancement to avoid punishments. In Z's case, her behavior can lead to being punished in both this and (at least according to her religion's teachings) the next life. By conforming to moral requirements, she can reduce the likelihood (as she understands it) of both secular and eternal punishment. If there were no political, moral, or religious sanctions, people like Z would not be interested in moral bioenhancement, because their morally questionable acts are also ones that provide them with intense feelings of fulfillment.

But could the type of moral bioenhancement under discussion be of interest to individuals who are not afraid of being sanctioned: people who operate within the law, but who are not interested in morality because they regard anything legal as also morally legitimate? One example could be a sadomasochist couple. Their neighbors might fear them, whether rationally or not, but the couple find S&M fulfilling.

Moral enhancement aimed at inhibiting impulses to inflict direct harm would (most probably) not be an option for them: given their proclivities, it would clearly decrease their capacity for living a good life. Bioenhancement might become an option, however, if the drugs in question were effective only against causing harm in a more discerning sense – that is, if the operation of the enhancement drug distinguished situations where inflicted pain is not necessarily seen as *a harm*. Citalopram is probably not a drug that could be used for such a purpose, as it does not seem to be capable of such a sophisticated distinction. Will we be able to develop a drug that stops people from harming others – understood in a suitably discerning way – but does not stop them, in all cases, from inflicting pain? Remember, too, that in some cases it might be morally justified, or even obligatory, to harm others, as in the case of stopping a terrorist bomber (or, arguably, in war). Would not a drug be needed that is capable of distinguishing between morally justified and morally forbidden acts of harming other people?

Is it necessary to refer to such extreme cases to claim that this type of moral bioenhancement is not in the interest of most people, and hence would not be chosen freely by them? I doubt it. I think that it is important to realize that for *most of us* there may be a gap between our conception of a good life and any moral demand that we reduce our tendency of directly doing harm to other individuals. The following three short examples exemplify how important directly doing harm to others can be in our everyday lives. First: suppose that, as you are trying to board a bus, some rude young men attempt to push past you even though they were behind you in line. Here a certain verbal force directed at them is appropriate. If they succeed and you miss your bus, it will be very upsetting – so you resist their action. This is a very simple example to support my basic view that morality (in the sense of inhibition of aggressive or directly harmful conduct) often is in the interest of the immoral: for example, the rude young men succeed in getting into the bus by pushing past you, while you are left having to take the next one.

Another example: if there were an increased tendency to avoid directly harming any living thing, some valuable practices, and their associated professions, might vanish. If moral bioenhancement promoted a reluctance to kill fish for food, for instance, this might eliminate the profession of fishermen and be contrary to what many fish eaters regard as a contribution to their leading a good life. Or imagine a social event where you see an attractive person whom you wish to meet – but your more assertive and talkative friend manages to push you aside and monopolize the conversation. It is his aggression toward you that leaves you alone and disappointed.

All three everyday examples reveal the tension between leading a less aggressive life and the importance of direct aggression toward other living beings, something that often helps you to maintain your own idea of a good life. I am not assuming a strong and detailed conception of the good by making this judgment. I am merely showing that a certain standing – a position of power and leadership – is a relevant component in most conceptions of the good life. Moral bioenhancement of the sort under discussion – a reduction of the inclination to do direct harm – is therefore problematic.

After reflection on everyday examples of human social intercourse, it becomes clear that there will be a clash between this understanding of morality and many, if not most, conceptions of a good life.

Of course, undergoing this type of moral bioenhancement might result in someone's conception of a good life itself becoming altered. That granted, it might also turn out that one's conception of a good life remains the same – even while the prospect of living such a life recedes. If that experience were commonplace, as I suspect it would be, the bioenhancement procedure would decrease the likelihood that many people would reach the goals essential for their conceptions of a good life. As I am assuming that a good life is immediately connected to someone's physiopsychology, and that this differs radically among different human beings, any “thick,” non-formal, account of the good is bound to be implausible. One aspect relevant for many people, however, is their will to live, to develop their capacities, and attain some standing in their communities. Since these elements are components of the good life, as conceived of by many persons, it is highly likely that there is a tension between a morality of not directly harming and many of the conceptions of a good life that are specific to individuals.

2. Further moral bioenhancement options

Persson and Savulescu do not employ not-harming other persons as their sole criterion of morality. They also analyze the relevance of enhancing pro-social behavior more generally, enhancing a sense of justice, and reducing cognitive biases toward near-future outcomes (e.g. 2012, 105–110). If we adopt their approach, a better practical example than citalopram might be oxytocin, which can be used to promote pro-social behavior. As with citalopram, however, we can easily identify examples where the drug does not promote morality: examples that illustrate how pro-social behavior cannot be identified with morally good or justifiable behavior. Perhaps, for example, followers of Pol Pot represented *pro-social* behavior of a kind, but it would be implausible to refer to it as, in any sense, behavior that was *morally good or justified*. The same argument could be made by reference to members of many criminal organizations or totalitarian regimes who act pro-socially toward members of their own group – since these are the ones near and dear to them – but whose actions are nonetheless morally deplorable or even monstrous.

In a different respect, oxytocin is nonetheless superior to citalopram: even though pro-social behavior can be an obstacle to leading a good life, this is less likely than in the case of not harming another person. Pro-social behaviour, belonging to a community, and having close intensive human ties are elements that are identified with a good life by a great percentage of human beings. Recent psychological studies support the plausibility of connecting pro-social behaviour and happiness (e.g. Aknin et al. 2015).

Still, it needs to be noted that oxytocin has only a temporary, reversible effect upon human beings. Someone could take it in order to deal with a special situation: for example, a woman who is not able to love her child after she gave birth to it. Taking oxytocin is not, however, a realistic option for dealing with the grand historic goal that Persson and Savulescu have in mind – reducing the risk of the global destruction of humanity. Criminals are not usually willing to take oxytocin when they feel the wish to kill someone. Hence, a more reliable technology would be needed. Still, it is an open question whether technologies with long-term, reversible effects (e.g. by means of specific drugs) or technologies with permanent, irreversible effects (e.g. by means of genetic modification) would be the better option. To get a better understanding of the implications, maybe we need to imagine possible outcomes that could count as successful direct moral bioenhancement.

If it were possible to genetically engineer some moral virtues, a different, more open attitude toward direct moral bioenhancement might be plausible. Let us say that scientists find out that there is a necessary correlation between a specific gene and the virtue of justice. Everyone with Gene X would embody the virtue of justice, would regard freedom, equality and solidarity as norms, would act upon them, would watch out when they are being attacked (and respond in an appropriate manner), and would try to convince others to act accordingly. Given such a situation, it might be possible to say that a Stoic Sage 3.0 had come into existence. If she were created in this manner, through a form of genetic

editing, then I would – I think – be among the first to consider options for promoting the presence of Gene X. In this case, several practical options might be available: wider use of genetic modification technologies such as CRISPR-Cas9 or using gene selection after IVF and PGD. Given that the methods for promoting Gene X were sufficiently reliable, it might even be worth discussing whether it could and should be legally compulsory for everyone living within the boundaries of State Y to have Gene X. In those circumstances, it would be important to consider the suggestions made by Persson and Savulescu (2008) when they argue in favor of obligatory moral bioenhancement (“safe, effective moral enhancement would be compulsory”). In such a situation, I can imagine good arguments in favor of a structural analogy between compulsory education and obligatory moral bioenhancements by means of genetic interventions.

The problem with this example is that contemporary scientific research is far away from detecting any Gene X with which the virtue of justice is identified. It is not clear whether, in principle, such a gene can even be conceptualized. Even if such a gene could be identified, and detected in particular cases, practically realizing it would be a further biotechnological challenge. As I’ve mentioned, gene selection after IVF and PGD could be an option, but it might not be possible to find Gene X in all sets of fertilized eggs. We are, of course, even further away from realizing Gene X in a reliable manner by means of genetic modification.

If we had a biotechnological way of promoting the virtue of justice, then I would value this moral bioenhancement procedure in the same way as I do moral education. I must also stress that I am not excluding the possibility that direct moral bioenhancement can eventually be made to work. Still, I do not currently see any way of realizing it within a short-term timeframe, and so I am extremely hesitant about the practical relevance of much of the recent academic discussion of moral bioenhancement (to which, admittedly, I am adding with this paper). Recall that moral enhancement is supposed to relate especially to reducing the risk of a technological destruction of humanity. To reduce that risk, however, enhancement of the virtue of justice would have to be enforced globally. This, in turn, would require a very far-reaching and powerful enforcement mechanism; the very idea of global enforcement seems to presuppose a world state, a global government, and moral norms that are globally shared. It is highly questionable whether the presence of such a global authority would, indeed, promote human flourishing, but I will not address that topic here.

So far, it seems clear that the most practical technologies – such as the use of citalopram – cannot fulfil the grand historic task assigned to direct biotechnological enhancement by thinkers such as Persson and Savulescu. Versions of direct moral bioenhancement that could plausibly do so can scarcely even be conceptualized, and they are technologically so challenging that they will not represent a realistic option within any short-term framework.

3. The relationship between cognitive and moral development

Given the general validity of the above analysis, along with the insight that direct moral bioenhancement is not one of tomorrow’s hottest and most realistic technologies, must we infer that we are doomed – and that, given the developmental speed of powerful technologies, criminals or fanatics will soon be able to use them to destroy humanity? I do not think so, as I am in agreement with Harris’s (2011) position that a betterment of our cognitive capacities also promotes morally good conduct. In order to increase the likelihood of a morally better way of dealing with the various challenges related to the application of emerging technologies, it seems plausible to expand cognitive capacities directly, instead of using moral bioenhancement, and I will now offer some arguments to this effect.

Earlier, I mentioned that Persson and Savulescu (2013) hold that there has been only small moral progress since Confucius, Buddha, and Socrates – at least when compared to the rate of human technological progress. I disagree with their judgment. On the contrary, it is feasible that, at least on a social level, cognitive and moral advancement have taken place in parallel with each other and with advances in technology.

Morality, as I understand it, is related to the recognition of norms such as negative freedom and human equality (Sorgner 2010, 239–44) – norms that developed during the Enlightenment; accordingly, when I consider the relationship between cognitive capacities and morally good or right conduct, it is these norms that I have in mind. How is it possible to think that these norms were in practice, and respected, in past ages without having been articulated consciously? If we held that there has been hardly any moral progress in this sense, imitating the approach of Persson and Savulescu,⁴ we would have to assume that something like this was the case.⁵

Though I relate the notion “morality” to norms such as freedom and equality, this understanding of the concept deserves further attention. Clearly enough, morality is a multi-faceted notion that can be related to the concept of the right as well as to the values and norms in use during a certain cultural epoch. Furthermore, the notions of a good life, moral rightness, and their relation to the concept of morality might require further clarification. By directly identifying morality with norms such as freedom and equality, I implicitly signal that this is the notion of morality which I subscribe to, and that I am using a particular notion of morality that is widely accepted within the German philosophical tradition. My use of the concept does not imply that there was no conception of morality or morally justifiable conduct before the Enlightenment. It does, however, imply that I am employing a contemporary understanding of morality as a criterion for judging whether, and (if so) how far, an arc of moral development has taken place.

Historical studies present us with reasons why the Persson/Savulescu thesis is highly implausible, since history makes it clear that neither the norm of negative freedom nor that of equality between all persons played any role in Ancient Greek and Roman societies – or in the various kingdoms of Medieval Christendom (Eissa and Sorgner 2011). In classical antiquity, political systems were strongly hierarchical. People could take it for granted that there was such a thing as a “natural” slave; even the greatest ethical thinkers of ancient times, such as Aristotle (*Pol.* 1 4, 1254a13-17), agreed with this assumption. Much the same applies to the Holy Roman Empire during the Middle Ages. How can one even imagine that the moral and political norm of negative freedom played any role in communities before the Enlightenment? Citizens were forced to follow the religious, metaphysical, and moral beliefs of their religious and political rulers; Socrates was, after all, sentenced to death because of supposed disrespect to the gods.

Prior to the Enlightenment, political and religious authoritarianism and repression were common. Since the advent of the Enlightenment in Europe in the late seventeenth century, thinkers, scientists, writers, soldiers, and ordinary citizens have sustained a struggle for the right to live according to their own conceptions of a good life. It is primarily *this wish* – the commonplace, yet radical, wish to live a good life according to one’s own criteria – that explains the central Enlightenment developments. The French Revolution, the increasing relevance of the natural sciences, and the development of new technologies by engineers relate closely to the fight against the dominance of Christian religious and aristocratic political leaders – the dramatic and ongoing struggle that made it possible to move away from totalitarian systems toward modern liberal democratic political structures. On an intellectual level, philosophers from Descartes through Locke and Kant supported this development, as did artists and writers such as Leonardo da Vinci and the Marquis de Sade (Sorgner 2010, 239–42).

Besides the genealogical reflections mentioned here, there is empirical evidence in favor of genuine social progress since the European Enlightenment. The psychologist Steven Pinker, especially in his recent monograph *The Better Angels of Our Nature*, has brought together empirical evidence showing that we “orient [us] away from violence and toward cooperation and altruism” – and that such a process has unfolded over millennia (Pinker 2011, xxv).

A reduction of violence against individuals implies a strengthening of respect for individual integrity. Various examples that Pinker discusses strongly indicate that significant moral progress has occurred. Pinker also stresses the relevance of empathy and reason among our “Better Angels” (2011, xxv) and the importance, in this context, of “the concept of human rights – civil rights, women’s rights, children’s rights, gay rights, and animal rights” (2011, xxiv–xxv). Yet, when trying to explain the phenomena in question, he refers to a great variety of reasons, trends, and processes. Even though his

reflections do not provide us with a final explanation of the processes that he identifies, his empirical data support the thesis that moral progress has taken place. If one grants that there has been significant moral progress from the Middle Ages to our time, affecting many citizens of enlightened and some non-enlightened countries, it might be related to the advancement of our cognitive capacities.

I regard it as highly credible that such advancement has occurred. There has been incredible progress in technologies, the sciences, and mathematics during the previous millennia, associated with a need to develop further and to gain more specific and more detailed cognitive capacities for dealing with this advancement physiologically. Furthermore, there is also some empirical evidence for a cognitive advancement. One recent aspect of this development is referred to as the Flynn effect, which implies that there has been an increase of intelligence in industrial countries from 1930 onwards, given the results of standardized tests that have been in use since then (Flynn 2012).

If a cognitive advancement (as suggested by the Flynn effect) and moral progress (such as Pinker describes) have both occurred, moral and cognitive advancements seem to be correlated processes. Pinker refers to the Flynn effect as a potential reason for moral progress (or at least a decline in violence) and mentions the likelihood of a “moral Flynn effect”:

We can now put together the two big ideas of this section: the pacifying effects of reason, and the Flynn Effect. We have several grounds for supposing that enhanced powers of reason – specifically, the ability to set aside immediate experience, detach oneself from a parochial vantage point, and frame one’s ideas in abstract, universal terms – would lead to better moral commitments, including an avoidance of violence. [...] Could there be a moral Flynn Effect, in which an accelerating escalator of reason carried us away from impulses that lead to violence?

The idea is not crazy. The cognitive skill that is most enhanced in the Flynn Effect, abstraction from the concrete particulars of immediate experience, is precisely the skill that must be exercised to take the perspectives of others and expand the circle of moral consideration. (Pinker 2011, 656)

Pinker tries to explain the expansion in moral consideration of others by means of increased prevalence of the cognitive skill of abstraction. It may, of course, be true that this line of thought is a mere suggestion, rather than an empirically grounded scientific explanation. For their part, Persson and Savulescu (2012, 107) acknowledge and emphasize the relevance of the work done by Pinker and Flynn, and there is an enormous amount of empirical evidence for at least a *correlation* between cognitive and moral advances. Although correlation does not equal causation, analyzing historical developments suggests two relevant conclusions. First, contemporary human beings seem to be cognitively advanced, displaying an enormous capacity for grasping complex relationships, understanding many lines of causation, and developing unprecedented forms of technology. Second, given our current understanding of morality, there clearly has been moral progress. Nowadays, freedom and equality are far more widely shared in the world than ever before. Is there a causal relationship between the cognitive advancement and the moral progress that we can discern in human history? Although I cannot prove this, there seems to be at least a widespread correlation between them, and there may be a causal connection.⁶

Further scientific investigation is needed before we can claim with confidence that cognitive development actually promotes moral development. But one reason why it may be the case is that our capacity for imagining what it is like to be someone else promotes the likelihood of recognizing “the other” as someone worthy of moral consideration. In all, there is some plausibility to the position that further cognitive enhancement processes will lead to further moral enhancement on a social level; and, contra Persson and Savulescu, cognitive enhancement does not have to be feared.

Thus, emerging technologies that further promote our cognitive capacities may also tend to promote morality. It may be true that the risk of global human extinction increases with emerging technologies, but the propagation of morality may also be promoted through technology. In that case, we do not have to be doomed, even if we are not in a position to enforce moral bioenhancement through global

laws. In short, emerging enhancement technologies can be seen as indirect tools for promoting moral progress.⁷

Conclusion

We should conclude that direct moral bioenhancement is not a technological option for the time being. Perhaps, however, this is not so much a cause for concern as Persson and Savulescu suggest, since indirect moral bioenhancement, via cognitive enhancements, may work more effectively than they are willing to acknowledge.

In this article, I have dealt with the question whether moral bioenhancement could be an appropriate means to the central goal that Persson and Savulescu regularly stress: that is, whether it is a plausible means to reduce the risk of human extinction. As part of their analysis, Persson and Savulescu point out that it is easier to harm than to do good, and that (given the developmental speed of enhancement technologies) it will be even easier in the future for madmen to bring about human extinction through the use of powerful emerging technologies. Persson and Savulescu conclude that it is important to promote the morality of human beings not solely through education, but also – and in particular – by means of technologies that directly promote morality. My response is as follows. We have reason to believe that promoting cognitive capacities and rationality by means of emerging technologies is sufficient to increase the likelihood of human beings acting morally on the social level. By contrast, it is highly unlikely that moral bioenhancement will do the trick within a sufficiently short time.

Given the correlation between cognitive capacities and morality on a social level, there are reasons to trust that cognitive enhancement techniques will reduce the risk of human extinction. If we employ genetic enhancement, morphological enhancement, cyborg enhancement, and pharmacological enhancement – all aimed at promoting general intelligence, memory, and/or the capacity to concentrate – we can produce significant moral progress, shaping a future in which the human species does not have to be doomed. Contrary to the worst fears of Persson and Savulescu, our species can continue to flourish and undergo moral development. Emerging technologies aimed at cognitive enhancement are promising, though admittedly indirect, means to enhance morality and the prospects of human survival.

Notes

1. To promote prosocial behavior by means of oxytocin might also be a promising option, but it faces challenges similar to those faced by the version of moral enhancement I am focusing on at this point. I will return to this. The biotechnological promotion of respect for – and of acts in accordance with – the norms of freedom and equality would be an extremely complex goal. I do not expect it to become a relevant option soon.

2 In order to rid themselves of fear, guilt, and shame, many rapists would be happy to eliminate their sexual and violent compulsions. There are, however, many who would not freely choose this option.

3. I am not implying that any act of religious self-control is an inauthentic crime against our “true nature.” No such conception of a unified human nature is hidden, or implicit, in my analysis. I merely hold that it seems impossible to make a non-formal statement concerning values that lead to a good life or *eudaimonia*, because the physiopsychology of human beings differs so radically among the human population that each individual has his or her own idiosyncratic and specific needs, drives, and wishes for living a good life (see Sorgner 2013). This view is not in conflict with the position that the norms of freedom and equality are legal and moral achievements that human beings have historically fought for. These norms are the result of struggles between various interest groups during and since the Enlightenment. They are not metaphysically valid norms, yet they are wonderful achievements that I wholeheartedly praise and for which I fight, and I am happy that many people agree with me in this respect (see Sorgner 2010).

4. In fairness to them, their understanding of morality is obviously a wider one than mine. It is, however, not relevant in the present context to deal with that issue in any detail.

5. It is interesting that Kant in his anthropology also talked about a historical process, determined by various conflicts, that leads to human moral perfection. His position is founded upon a strange, teleological understanding of historical developments, but his observation that conflict can lead to moral improvement is at least worth noting in this context. See Kant 2006, Part 2.

6. I stress a correlation between cognitive and moral advances on a social level, since the rejection by Persson and Savulescu of any significant moral progress in our cultural history is concerned with that level. The relationship between the cognitive and moral states of an individual is not a necessary one, i.e. it is not impossible that cognitively advanced human beings are morally corrupt. My point relates to a probable *social* phenomenon: there is a high likelihood that a society with cognitively advanced human beings will also be a society that is morally advanced.

7. An additional remark: In order to critically analyze the question whether there has been “moral improvement since the time of Confucius, Buddha and Socrates,” it might be necessary to consider some further, including more metaethical, issues. When discussing morality, Savulescu and Persson refer to a great variety of phenomena, e.g. non-harming, pro-social behavior, and altruism. Some of these phenomena suggest that morality implies a certain sort of action, and thus an act-centered understanding of morality (non-harming). At other points, they seem to associate morality with a certain emotional tendency or type of character (altruism), implying an agent-centered or even a virtue ethical approach. I cannot go into more detail here concerning this highly important issue.

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