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Confronting Existential Risks With Voluntary Moral Bioenhancement

Vojin Rakić
Center for the Study of Bioethics, Institute for Social Sciences, Serbian Unit and European Division of the UNESCO Chair in Bioethics, Cambridge Working Group for Bioethics Education
University of Belgrade

vojin.rakic@csb.eu.com

Milan M. Ćirković
Astronomical Observatory of Belgrade
and
Center for the Study of Bioethics
University of Belgrade

mcirkovic@aob.rs

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Abstract

We outline an argument favoring voluntary moral bioenhancement as a response to existential risks humanity exposes itself to. We consider this type of enhancement a solution to the antithesis between the extinction of humanity and the imperative of humanity to survive at any cost (e.g., by adopting illiberal strategies). By opting for voluntary moral bioenhancement, we refrain from advocating illiberal or even totalitarian strategies that would allegedly help humanity preserve itself. We argue that such strategies, by encroaching upon the freedom of individuals, already inflict a degree of existential harm on human beings. We also give some pointers as to the desirable direction for morally enhanced post-personhood.

Introduction

A sizeable body of literature has been devoted recently to arguments for and against cognitive and/or moral enhancement of human beings. Harris, Savulescu, Persson, Douglas, Crockett, Wilson, DeGrazia, Agar, Sparrow, Rakić, Wasserman, Wiseman and others have written various articles and books on the topic, but a truly comprehensive recent review of the literature is still lacking.

Bioconservatives have argued against bioenhancement, as they believe that it is aimed at intervening in what has been ordained by God or given to us by nature. Bioliberals, on the other hand, insist that nature is morally indifferent, from which it follows that we have a right to intervene in what nature has created. In fact, we do that already when we fight certain natural phenomena that inflict harm on people: e.g., medications are administered to patients who suffer from diseases (which are frequently naturally occurring phenomena), dams are built to contain floodings, defenses against lightning are set up. Some bioliberals insist on our moral *duty* to enhance everything that can be enhanced. On the other hand, there are those who are against certain forms of enhancement but are by no means bioconservatives. For instance, they are against moral bioenhancement, at least in its currently possible form, but are not necessarily against cognitive bioenhancement (e.g., John Harris and Nicholas Agar).

It is precisely the theme of moral bioenhancement that figures prominently in bioethics literature in recent years. Persson and Savulescu assert that humanity is at risk of (self-) annihilation, or another form of what they call "ultimate harm," if it does not embark on the path of moral bioenhancement.[1] John Harris, on the other hand, maintains that this type of enhancement can be accomplished only to the detriment of our freedom. He insists on cognitive enhancement being sufficient for moral enhancement (Harris 2011). Rakić (2014) argues against both Harris and the collaborative efforts of Persson and Savulescu. Against Harris, he maintains that we might become cognitively enhanced, e.g., we might start to understand that racial prejudices are morally wrong, without acquiring the motivation to act upon this understanding. At the same time, Rakić argues against Persson and Savulescu's position that moral enhancement ought to be made compulsory (Persson and Savulescu 2008, 174).[2] This issue of the voluntariness of moral bioenhancement is essential for the central theme of this paper: how to employ it in order to confront existential risks.

Existential risk prevention as a moral imperative

Existential risks are those in which an adverse outcome means the extinction of Earth-originating intelligent life or the permanent and drastic destruction of its potential for desirable future development (Bostrom 2002). Recent work in existential risk analysis has clearly suggested that any form of consequentialist ethics imposes a strong obligation to prevent global existential threats (e.g., Parfit 1984; Matheny 2007; Baum 2010; Bostrom 2013).

Examples of existential risks include large natural hazards, such as supervolcanic explosions, large anthropogenic risks, such as misusing biotechnology to create new pathogens against which the human immune system has no defense, and risks following from a complex interplay between anthropogenic and natural processes, such as global warming. All these share the fundamental feature that they can, on timescales short by astronomical, geological, or evolutionary standards, annihilate all the values created by humanity so far, as well as all the values which *could ever be created* by humanity or its descendants. This fundamental property automatically makes the concept of existential risk of central importance to moral philosophy in general, and to bioethics in particular. The same property puts existential risks into a separate category from other large

catastrophic risks such as tsunamis or ice-ages, which do not (in their well-defined ranges of severity) threaten the very existence of future generations of human or posthuman beings. A separation in our *ethical* thinking about existential vs. global catastrophic risks should occur even if the *physical* causative mechanism of some existential risks is, in fact, the extreme part of the distribution of similar global catastrophic risks. An astronomer might consider a 20-kilometer asteroid impact, which would certainly destroy humanity, as essentially similar to a 2-kilometer impact, which would, according to the present-day models, devastate a continent and change the global climate, though in a completely inhabitable way; but the consequences for moral philosophy – and, perhaps, for the moral status of a large part, if not all of the visible universe![3] – are as different as the concept of death is different from that of the common cold. While it is, in extreme cases, possible to die from the common cold, this certainly would not justify stating that the common cold is lethal, or that the moral obligation of a physician to try everything to prevent death of a patient extends to trying everything to prevent the patient contracting a common cold.

This is in agreement with our intuitions that the value of future generations, which are directly *vulnerable* to the present-day existential risks, could far exceed the values created by humanity thus far (Bostrom 2003; Ćirković 2004). Therefore, the loss of such future values could far outweigh any loss of value in human history thus far – and such an outcome would thus constitute the greatest evil ever faced by humankind. On the basis of such reasoning, many contemporary researchers have reached the conclusion that prevention and mitigation of existential risks are the biggest imperatives our species has ever faced (e.g., Matheny 2007; Bostrom 2013).

While some existential risks seem to be preventable with present-day or near-future technology (impacts of large asteroids on Earth provide a prototypical example; see e.g., Ahrens and Harris 1992), in other cases mitigation is a more remote prospect. The latter particularly applies to anthropogenic existential risks which, unfortunately, also have the largest probability, such as anthropogenic global warming or intentionally caused pandemics and other forms of bioterrorism. The huge body of literature devoted to climate change mitigation testifies how difficult it is, and a large part of the difficulty stems from the problem of the *lack of coordination* of relevant actors.[4] The same applies to the threat of misuse of biotechnology and bioterrorism (Atlas 2002; Jansen et al. 2014), which is emphasized by the necessity of rather extreme surveillance if *preventive* action is to be possible. Similar considerations apply, *mutatis mutandis*, to other existential risks. All these examples point in the same general direction: mitigation of existential risks requires a conjunction of two key ingredients: strong global surveillance and strong global coordination. Both ingredients are associated with a reduction, rather than increase, of the freedom of individual actors on the scene, both personal and political.

In line with that, it might be argued that existential risk prevention should not take place at the cost of our loss of freedom. If moral bioenhancement were imposed on us by the state, our freedom would be jeopardized. As freedom is an essential component of our humanness, its demise, either in full or to some extent, would *already* inflict a certain degree of existential harm on human individuals. In that sense, threats to our freedom are also existential risks. Consequently, human individuals should not fall prey to the "survival at any cost bias" (see Rakić 2014).

Moreover, we also don't have to accept the survival of our species as the most important moral desideratum. Biological morality, i.e. a morality based on the survival of the species as the highest moral goal to be achieved, is not necessarily superior to other approaches to moral desiderata (e.g., those promoted in deontological ethics). On the whole, we should be careful not to indiscriminately sacrifice the essential ingredients of our humanness in order to increase the

likelihood of our survival, *both as individuals and as a species*. If the cost of species survival is the loss of its humanness, such survival would become an oxymoron.

Mitigation enforcement and the road to totalitarianism

There are many disturbing scenarios in which existential risks are produced by actions of individuals or small groups (terrorist organizations, apocalyptic cults). Particularly worrying is the possibility of the intentional or accidental creation of new pathogens in "basement labs" lacking any biosafety measures (e.g., Jansen et al. 2014). Mitigation of such threats seems impossible without a drastic expansion of surveillance and curtailing of privacy, since illegal biotech labs could easily be hidden and moved – in contrast to, for instance, most nuclear weapons installations (and we can easily perceive from the news how difficult it is to implement non-proliferation treaties even in that case). An optimistic view is that this might result in a form of "transparent society" (Brin 1998), while most pessimistic views focus on the capacity of such technologies to create a strictly regimented totalitarian society.

Even existential risks with much longer timescales, like runaway global warming, might require an extremely high level of social coordination, enforcement capability and unity of goals, inaccessible in the context of conventionally understood liberal and democratic societies. This becomes more and more relevant as time passes and the measures required for mitigation become more and more extreme. In particular, if it turns out that geoengineering is the only efficient way to stop runaway global warming, it is hard to see how the present, relaxed system of international deliberation and decision-making could be employed for such an undertaking. Thus, even those "slower" – but very much real – threats might lead rather straightforwardly to a totalitarian or crypto-totalitarian world.

Future totalitarianism is a stable configuration, possibly much more stable than historical totalitarian regimes due to ongoing improvements in technology and understanding of social and psychological mechanisms. Ubiquitous miniaturized surveillance is already a commonplace – and has already eroded parts of the traditional concept of privacy. Future surveillance equipment (possibly based upon molecular nanotechnology) will be able to go much further in that direction and entirely obviate the notion of a "private space" that is off-limits to government or even other powerful social actors (corporations, churches, etc.).

Another important development that might serve as a prop of future totalitarian regimes is the expansion of genetic screening for various functions and positions in society. This practice might easily be abused in order to suppress any discontent and critical thought.

Even more speculative possibilities – although discussed in contemporary bioethics – are also asymmetric in the sense that they are much more likely to support illiberal rather than liberal tendencies. As argued for instance by Caplan (2008), radical life extension is more likely to help future totalitarian regimes (for instance, to alleviate leadership succession crises or to keep populations more conservative and docile) than it is to help any form of liberal opposition to the regime.

Novel forms of neurosurgery, possibly using nanotechnology, will enable more efficient brainwashing and mind-control of opponents and potential opponents. Even in completely different environments of the future, there will be strong incentives for illiberal and, in the worst scenario, totalitarian regulation (see, e.g., Cockell 2008).

Voluntary moral enhancement as the best antidote to totalitarianism

In the context of the discussion thus far, we submit that moral enhancement, both traditional (education) and moral bioenhancement, is the most promising way of "navigating between Scylla and Charybdis," that is, avoiding both the threat of human extinction (or a milder form of "ultimate harm") and "safe" global totalitarianism (or a milder form of authoritarian rule).[5]

Clearly, not just *any* form of enhancement can help us face our problems as a species. We need to make distinctions, and it is exactly our ability to do this that (in our view) gives additional value to our approach: we are in a position to proactively suggest *specific* goals of moral bioenhancement. While we cannot infer at present when such specific goals will become fully realizable, we at least wish to argue that they are *desirable*, so that further research can concentrate on specific technologies, and that any future development can be goal-oriented. In a sense, it is a duty of present-day bioethicists to discuss and formulate an *essential toolkit* for future moral bioenhancement; the contents in the toolkit will be a function of the arguments about the purposes and goals of undertaking the program of enhancement in the first place.

Concretely, in the present context of existential risk management, we suggest that acceptable moral enhancement should contain the following two elements:

1. Long-term perspective in assessment and decision-making.

2. Respect for the autonomy and liberty of societal actors.

Both seem rather obvious desiderata. Without a long-term perspective – which is sorely lacking in the public discourse nowadays – the management of processes that could take decades or centuries, or even more, to manifest their effects will be impossible.[6]

Respect for liberty and autonomy is an obvious barrier to totalitarian tendencies. If historical experience is to be of any help, this ingredient seems to be necessary independently of any other cognitive or social requirement.

In that sense, it is critical to understand the perils of a program of *compulsory* moral bioenhancement. Such a program might in the worst case lead to political repression and totalitarianism. As already noted, Persson and Savulescu do not advocate compulsory moral bioenhancement in their recent writings, but nor do they take a stance against it. Consequently, their position contains the danger of indirectly supporting illiberal tendencies. It can do so in the following way:

1. Savulescu and Persson's conception of the "god machine" appears to contain an illiberal component. The "god machine" is a device that obliterates our wish to perform an immoral act as soon as we think of it (Savulescu and Persson 2012). It deserves emphasis that the god mentioned in its name is not God from Judeo-Christian and Islamic religious traditions. In these, God leaves our freedom intact. We are free both to do good and to sin. Our "freedom to fall" is thus preserved. Savulescu and Persson's "god machine," conversely, is a device that intervenes as soon as we develop a morally unacceptable thought and wish to behave in line with it. Its aim is nothing less than enhancing the role of God from the mentioned religious traditions. Disabling us to act as we wish by policing our thoughts, such a device is rather a "police machine" than a "god machine."

2. It is also a matter of debate who should be in charge of developing and controlling this device. Even if a democratically elected government were mandated with the task, its arbitration would have to be both repressive and politically legitimate: repressive because it would forcefully intervene whenever we decided to act in a way that it considered morally unacceptable, politically legitimate because it would be developed and monitored on the basis of decisions being made in the realm of politics. The very fact that these decisions would prescribe what we are allowed to will, implies that the "god machine" has illiberal underpinnings – even if those who control it might be democratically elected. Moreover, as it intervenes by changing what we think to do, it can be argued that the"god machine" is detrimental to our very freedom of thought.

3. In *Unfit for the Future*, Persson and Savulescu adopt a critical attitude toward liberalism in order to justify a role for the state in mandating moral bioenhancement aimed at helping humanity avoid ultimate harm (Persson and Savulescu 2012, 42–46). Abandoning liberalism and accepting a form of authoritarianism, even an enlightened one, is however a step back in humanity's historical development. Authoritarian and totalitarian states employ political repression to eliminate those who disagree with their ideologies. Using political repression is, in short, what such states do.

It is undoubtedly possible to argue in favor of political repression and totalitarianism, especially if the repressive authority is a morally enlightened one. But at least let it be noted, as a matter of fact, that compulsory moral bioenhancement is *not* a liberal concept. In the worst case, it can be repressive. Political repression and totalitarian, or another form of authoritarian, rule is a stage in humanity's historical development that appears to have been left behind in most of the developed world. More than anything else, historical totalitarianism has left bloody stains of extreme evil on the history of humanity, and it should be noted and emphasized, time and again, that builders of totalitarian systems have never come close to fulfilling their rhetorical promises of "freedom from oppression," "living space," "heaven on earth," and others conveyed in phantasmal slogans.[7] With the passage of time, reality under totalitarian rule deviates *more and more* from the proclaimed goals, rather than converging toward them.

Creating morally enhanced post-persons

Insofar as we have progressed in formulating and adhering to more and more expansive and inclusive human rights, we are bound to condemn totalitarian theory and practice as regressive and immoral. But even if we should assign higher value to life strictly regulated in the totalitarian sense than to no life at all, it is exactly the repugnant nature of this choice that should prompt us to investigate any possible alternative to the dilemma. As argued above, we are actually facing a trilemma, not a dilemma, and therefore ought to concentrate on the third alternative, which is neither extinction nor totalitarianism.

We propose the creation of morally enhanced post-persons as this third alternative. The following conceptual clarifications related to the notion of morally enhanced post-persons are relevant for our argument:

1. Post-persons differ from "mere persons" in that they have a higher moral status.

2. "Mere persons" are currently existing humans (with the proviso that some currently existing humans do not satisfy the criteria for personhood).

3. Moral status enhancement is the improvement of a being's moral entitlement to benefits and protection against harms.

4. Moral enhancement is the improvement of the moral value of an agent's actions or character. It is moral disposition enhancement.

5. In our understanding, higher moral status implies not only cognitive superiority, but superior moral dispositions as well, i.e. a higher moral value of an agent's actions or character.

The most important component in our understanding of post-persons is that their higher moral status vis-à-vis mere persons entails not only cognitive supremacy, but also their superior moral outlooks *and inclination to act in line with them*. The gap between what we do and what we believe we *ought* to do might well be the greatest predicament of human moral existence (see Rakić 2014, 248). Humans have the disposition to be capable of autonomous practical reasoning, and moral reasoning in particular. But if someone is in certain cases unwilling to act in accordance with what she knows is right, she is in such cases incapable of moral action. Wouldn't a being that is always behaving in line with what she believes to be moral be someone with a higher moral status than the one we have? Wouldn't that be a post-person? We argue that it would, because the difference between beings who are capable of moral reasoning only and those who practice their moral beliefs is a qualitative difference amounting to a differentiation in moral status (for an elaborated version of the above sketched argument, see Rakić 2015, 60–61).

In the February 2013 issue of the *Journal of Medical Ethics*, Nicholas Agar published a paper on the possibility/imaginability and moral justifiability of the creation of post-persons. Agar's position was one that advocated an inductive argument *against* the justifiability of their creation. Agar believes, specifically, that the creation of post-persons is too risky, as they might sacrifice or in other ways harm mere persons. It is morally permissible to sacrifice objects with no moral status in the interest of sentient nonpersons (e.g., to use carrots for feeding rabbits). It is also morally permitted to sacrifice/harm sentient non-persons for the benefit of human persons (e.g., experiments on rhesus monkeys in order to find better treatments for diseases affecting humans). These permissions provide inductive support for a moral justification for sacrificing mere persons for the sake of post-persons. Hence, we should avoid creating post-persons (Agar 2013).[8]

Arguing against Agar, we will present another inductive argument and, on top of that, offer a deductive argument *favoring* the creation of post-persons. Both arguments presuppose that the higher moral status of post-persons implies not only their enhanced cognitive abilities, but also their enhanced morality. For enhanced morality we do not require only a superior understanding of moral issues (which is a cognitive quality), but also our motivation to *behave* in line with this understanding.

Inductive argument favoring the eventuation of morally bioenhanced post-persons

If a higher moral status of post-persons implies an enhanced morality, morally bioenhanced post-persons will not be inclined to annihilate or severely harm mere persons, because they will presumably consider it their moral duty not to cause detriment to the beings who enabled them to come into existence. If mere persons have moral inhibitions against annihilating species of moral status lower than their own, it is even less likely that morally enhanced post-persons will annihilate mere persons.

Deductive argument favoring the eventuation of morally bioenhanced post-persons

Even if morally bioenhanced post-persons believed that it was morally justified to obliterate mere persons, such a standpoint would by necessity be morally superior to the wish of mere persons (i.e. morally unenhanced persons) to continue to exist. This deduction can be derived from the following two premises:

1. Morally enhanced persons make better moral judgments than mere persons.

2. One of the attributes of post-persons, as we defined them, is that they are morally enhanced.

From these two true statements we can deduce a third that is also true:

3. Post-persons make better moral judgments than mere persons.

The third statement in this syllogism further implies that we have a moral duty to accept what post-persons consider to be morally preferable. Consequently, as it is our moral duty to help establish a more moral world than the currently existing one, the creation of morally bioenhanced post-persons is not only morally justified, but our moral duty as well.[9]

All in all, morally bioenhanced post-persons are morally desirable: they might have the potential to confront the danger of extinction of humanity or a milder form of existential harm, they are unlikely to seriously jeopardize mere persons, and even if they did, they would be morally justified in doing so. Hence, we have a moral duty to embark on the path of either creating morally bioenhanced post-persons *de novo* or morally upgrading mere persons to the status of morally bioenhanced post-personhood. In either case, and in stark contrast to some bioconservatives who tend to misrepresent the entire project of human enhancement as threatening to humanity, a corollary of our argument is that the real threats to the existence and well-being of our species – existential risks – constitute a major motivation *in favor of* undertaking human bioenhancement, moral bioenhancement included.

Conclusions

The trilemma

The essential trilemma is encompassed in a simplified form in Figure 1. Possible future evolutionary trajectories seem to tend into three broad regions (or "attractors" in a loose sense). Extinction is, unfortunately, the prospect that will remain with us for a long time to come, since it is highly unlikely that the double trend toward both more dangerous, and destructive, weapons of mass destruction and larger, more destructive, perturbations inflicted by human civilization on our planetary environment will reverse soon.

One way we can try to avoid extinction is via totalitarian rule that will punish any attempt of humanity to inflict existential harm upon itself. Another way is to embark on the path of moral bioenhancement. This type of enhancement can be compulsory or voluntary. We have shown why compulsory moral bioenhancement is potentially repressive in nature. Hence, it belongs to the grey area between totalitarian rule and morally enhanced post-personhood.

A solution

Totalitarianism in its traditional form has been surpassed in the developed world. Post-personhood, however, contains a totalitarian element if it is based on the type of compulsory moral bioenhancement that has been referred to in this article. Both traditional totalitarianism and this type of compulsory moral bioenhancement deprive humans of their freedom, which is a key component of their human existence. Hence, they not only contain a totalitarian element, but also inflict a degree of existential (possibly ultimate) harm on humans. In actual fact, the two left circles of Figure 1, i.e. extinction of humanity and totalitarianism (including the two grey areas) include the infliction of existential (possibly utimate) harm as an important similarity. They differ in the degree of harm they inflict: the harm of totalitarianism is less dramatic than the harm of humanity's extinction.

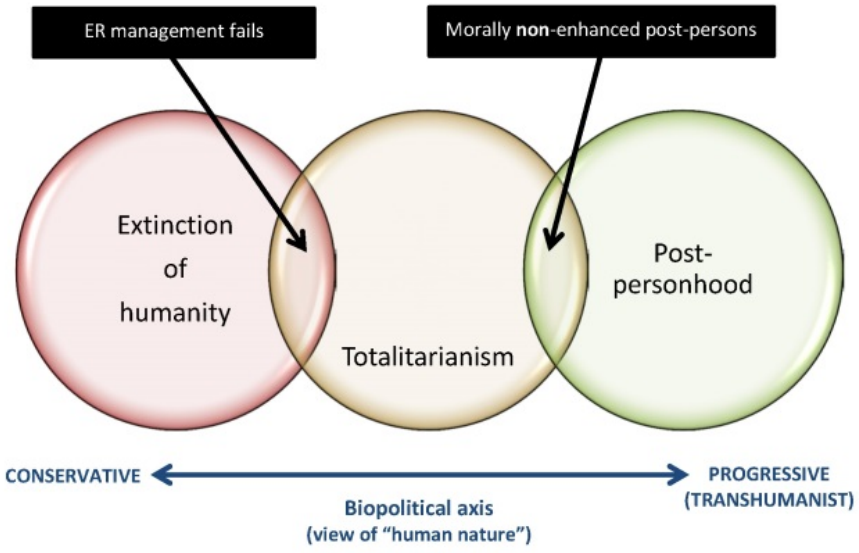

Figure 1. A schematic representation of three attractors in the space of futures. The biopolitical axis is described in detail by Hughes (2004). Part of the entire domain of post-personhood on the right which does not overlap with totalitarianism corresponds to morally enhanced post-personhood (its complement, obviously, corresponds to morally non-enhanced post-persons, as labeled).

The obnoxious nature of these choices, however, leaves us with one reasonable option only: to try to continue our human existence in a morally bioenhanced form, which implies that we have not been coerced into such an existence, but have voluntarily opted for it. We argue, therefore, that voluntary moral bioenhancement is an essential strategy to follow in order to achieve morally enhanced post-personhood. And morally bioenhanced post-personhood is the best option we have in order to avoid extinction, totalitarianism, or any other form of existential harm.

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Notes

1. Persson and Savulescu define ultimate harm as an event or series of events that make worthwhile life on this planet forever impossible (Persson and Savulescu 2014, 251); thus, it is equivalent to the adverse outcome of some existential risks. The fine points of difference between the two concepts are irrelevant for the purposes of the present study.

2. In the words of Persson and Savulescu: "If safe moral enhancements are ever developed, there are strong reasons to believe that their use should be obligatory, like education or fluoride in the water, since those who should take them are least likely to be inclined to use them. That is, safe, effective moral enhancement would be compulsory" (Persson and Savulescu 2008, 174). It ought to be noted, however, that in their more recent writings, Persson and Savulescu don't take a decisive position on the issue of whether moral bioenhancement ought to be compulsory (e.g., Persson and Savulescu 2012).

3. Compare Kahane 2013.

4. Contrary to our untutored intuition, this does apply even to ongoing processes like climate change and nuclear proliferation, since they retain the capacity to do immense harm on temporal horizons much longer than the timescales for bioenhancement of any kind.

5. This does not mean that our stance is that humanity has no reasons other than diminishing existential risks to embark on the path of moral bioenhancement. It also does not imply that moral bioenhancement *guarantees* that we will avoid threats to our existence. We assert only that moral bioenhancement might significantly lower the likelihood of such threats becoming reality.

6. Even pure research on the long-term phenomena is usually severely hampered by the lack of such vision in funding agencies and donors. Management and mitigation are bound to face much more formidable obstacles of that kind.

7. NB: we don't argue that the mere fact that a society has one or more illiberal laws implies that it is totalitarian. Certain illiberal laws can be found in democratic states as well. Our argument is that the notion of compulsory moral bioenhancement contains the danger of regression into totalitarianism, especially if it is accompanied by the concept of a "god machine" policing our thoughts. For related arguments, see the "hellish" scenarios in Bostrom (2013) or the argument that compulsory moral bioenhancement can already inflict existential harm upon humans by divesting them of what we used to call "free will"– even though it is supposed to lower the likelihood of such harm (Rakić 2014). Another important point is that we need to take a *long-term perspective*: if a mechanism of repression persists, even if it is not used in practice on short timescales, the probability that it will be used with disastrous consequences just grows with time. While it is certainly possible to conceive of conditions under which compulsory bioenhancement would not be drastically different from compulsory schooling (e.g., Blackford 2014, 44–49), it is an entirely different issue whether such special conditions are likely at any particular point in the future.

8. Agar's article sparked various reactions, both supportive and critical. The standpoints of the authors who commented on Agar's position in the *JME* issue in question can be classified as follows: post-persons are imaginable, but undesirable (Sparrow 2013); the eventuation of post-

persons is unlikely, but not undesirable (Hauskeller 2013); post-persons are both imaginable and desirable (Persson 2013 and Douglas 2013).

9. For a more extensive argument, see Rakić (2015).

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