

Hopes and limits of moral bioenhancement

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Abstract: Even though it does not seem really possible that traditional means of enhancing our moral capacities can be completely replaced by new biotechnologies, sometimes it says that we could make people moral or more moral just by employing biochemical or genetic engineering, implants¹ or electrical stimulation of the central nervous system or by administering certain drugs that affect the brain. In the course of this article my main aim is to show that these hopes and expectations in moral bio-enhancement should be strongly reconsidered and debunked. Moral bio-enhancement is to be reconsidered because morality is a kind of experience that cannot be construed just through technologies, but requires the capacity of learning to consider things from a general point of view, of developing a sensitivity able to perceive suffering and pleasure of other people.

Keywords: Enhancement, ethics, bioethics, technologies

Running head: Morality is a kind of experience that cannot be construed just through technologies: limits and hopes of moral bioenhancement

Introduction

We live in an international world marked by violence and aggression, where appeals to morality often prove to be either empty or however without any effect. Wars and genocide continue to devastate the continents and represent a dramatic problem. Slavery and other forms of oppression against religious minorities, ethnic groups and women are still widespread throughout the world and, together with poverty, are perhaps the clearest sign of injustice characterising our current reality². To these

¹ Karim Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, "Neuroethics, 7, 2014, pp. 253-261, p. 254.

² David De Grazia, *Moral Enhancement, Freedom, and What We (Should) Value in Moral Behaviour*, "Journal of Medical Ethics", doi:10.1136/medethics-2012-101157.

evils, then, one must also add the extremely serious environmental crisis we are experiencing, which is also the result of our profound indifference when it comes to the life of future generations, about whom we do not appear to concern ourselves as we exploit the planet's resources. These examples are sufficient to show the advantages which, at a moral level, bio-enhancement could offer to us and future generations. It is true that we already have and use moral enhancement instruments – such as, for example, education, socialisation, literature and cinema – but, with the help of bio-technologies, moral enhancement could be more effective³.

Even though it does not seem really possible that traditional means of enhancing our moral capacities can be completely replaced by new bio-technologies, sometimes it says that we could make people moral or more moral just by employing biochemical or genetic engineering, implants⁴ or electrical stimulation of the central nervous system or by administering certain drugs that affect the brain. In the course of this article my main aim is to show that these hopes and expectations in moral bio-enhancement should be strongly reconsidered and debunked. One intervention can aim or intend to morally enhance a person, without being really effective, i.e. making people immediately moral (or more moral).

My scepticism towards moral bio-enhancement is not founded on doubt about the scientific and technological development in the area of human enhancement⁵. Today we can obtain only limited results from enhancing technologies, but I assume that in the future it will be possible to use interventions and drugs that allow us to modify profoundly human behaviours, dispositions and empathy⁶. I believe that moral bio-enhancement is to be reconsidered because morality is a kind of experience that cannot be construed just through technologies, but requires the capacity of learn-

³ Kasper Raus et al., *On Defining Moral Enhancement: A Clarificatory Taxonomy*, "Neuroethics", 2014, 7, pp. 263-273.

⁴ Karim Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, "Neuroethics", 7, 2014, pp. 253-261, p. 254.

⁵ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, cit., p. 254; K. Raus et al., *On Defining Moral Enhancement: A Clarificatory Taxonomy*, "Neuroethics", 2014, 7, pp. 263-273.

⁶ However, according to Harris Wiseman, "the radical ambiguity of the various findings is such that the impact of these biological agents remains every bit as unpredictable as it is profound. It can only be that context, and the larger psycho-social environmental conditions of the person involved, shape the influence of these biological factors to a tremendous degree. Disentangling the effects of these biological factors from one another and from the variety of other surrounding influences on moral functioning is going to be a weighty problem for those who wish to appropriate these chemicals as mechanisms by which moral functioning can be augmented.", Harris Wiseman, *The Myth of the Moral Brain. The Limits of Moral Enhancement*, The MIT Press, Cambridge Massachusetts 2016, pp. 110-111.

ing to consider things from a general point of view, of developing a sensitivity able to perceive suffering and pleasure of other people and of imagining in which way we can combine many divergent claims and interests.

In the debate on moral enhancement it has been suggested that we could make people moral mostly by modifying or enhancing their behaviour, dispositions or empathy. Therefore we will start discussing behavioural moral enhancement and then we will pass to analyse dispositional or emotional enhancing and empathy enhancement.

Behavioural moral enhancement

The debate of moral bioenhancement discusses the possibility of producing a powerful computer that is capable of monitoring thoughts, intentions and desires and modifying them when it recognizes the presence of criminal designs or projects. The God machine represents the model of a behaviour bioenhancement: it does not modify people's character or dispositions, but it intervenes just to prevent criminal acts (and therefore, we can add, just to restrict or promote certain acts and/or behaviour). A more realistic alternative could consist of a neural implant that restricts acts of violence⁷ or the consumption of specific drugs⁸. However, even though this kind of bioenhancement could have important results and benefits for society, it cannot make people truly morally enhanced⁹. People would be unable to perform certain acts, but will retain their character. They will be prevented from acting immorally, but, as per Julian Savulescu and Ingmar Persson, they still have bad intentions¹⁰. After all, we know that it is not enough to act in accordance with a certain moral standard or, more simply, have certain behaviour to be truly moral: one must also have an appropriate first-order disposition or attitude to be moral¹¹. Indeed, we do not call an old sadist who by now does not inflict harm and suffering moral, just because he doesn't have the strength to commit new aberrant crimes. And we do not call a young psychopath

⁷ D. De Grazia, *Moral Enhancement, Freedom, and What We (Should) Value in Moral Behaviour*, p. 6.

⁸ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 255.

⁹ D. De Grazia, *Moral Enhancement, Freedom, and What We (Should) Value in Moral Behaviour*.

¹⁰ Julian Savulescu, Ingmar Perssons, *Moral Enhancement, Freedom and the God Machine*, "Monist", 2012, 95, 3, pp. 399-421.

¹¹ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 255.

who has been sentenced to prison moral. It is true that neither the old sadist nor the young psychopath commit crimes, but, even though they don't commit crimes, they lack the appropriate moral dispositions. Moreover, the use of sedative gas can prevent someone from harming people, but, also in this case, we would not think that this is a case of moral enhancement: at the very least, moral bioenhancement must improve people's motivations¹². Then, this kind of enhancement will prevent people from learning from moral mistakes and, it does mean, will prevent personal and moral development: "If we didn't see the consequences of bad (or indeed of good) decisions, – John Harris rightly points out – how would we learn from them?", this kind of enhancement "would attack agency itself, not just prevent bad decisions"¹³.

Dispositional moral enhancement

In the debate on moral enhancement it is also supposed that with technological development we could also make people moral, just by providing them with moral dispositions¹⁴. Behavioural enhancement does not change people's dispositions or give people morally better dispositions: it just corrects their normal behaviour. However, we could enhance not the behaviour, but the moral dispositions^{15,16} and modify, as Thomas Douglas argues, the way they feel about their behaviour¹⁷: "My thought is that there some emotions – henceforth, the counter-moral emotions – whose attenuation would sometimes counts as a moral enhancement regardless

¹² Robert Sparrows, *Better Living through Chemistry? A Reply to Savulescu and Persson on "Moral Enhancement"*, "Journal of Applied Philosophy", 31, 1, 2014, pp. 23-32.

¹³ John Harris, "...How Narrow the Strait! The God Machine and the Spirit of Liberty", "Cambridge Quarterly of healthcare Ethics", 2014, 23, pp. 247-260, p. 251. According Harris, there is also another problem: given that the context is not accessible to the God machine and the action produced is not only in the neurons, how can it be able to interpret which acts are wrong and which act are right?

¹⁴ Mark Walker, *Enhancing genetic virtue. A project for twenty-first century humanity?*, "Politics and The Life Sciences", 28, 2, 2009, pp. 27-47; T. Douglas, *Moral Enhancement via Direct Emotion Modulation: A Reply to John Harris*, "Bioethics", 27, 3, 2013, pp. 160-168.

¹⁵ J. Savulescu, I. Persson, *Moral Enhancement, Freedom and the God Machine*, "Monist", 95, 3, 2012, pp. 399-421.

¹⁶ I. Persson, J. Savulescu, *The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity*, "Journal of Applied Philosophy", 25, 3, 2008, pp. 162-177.

¹⁷ Thomas Douglas, *Moral Enhancement*, "Journal of Applied Philosophy", 25, 3, 2008, pp. 229-245, 229.

of which plausible moral and psychological theories one accepted”¹⁸. This kind of result could be reached through particular medical treatments or drugs¹⁹, brain stimulation, implants, interventions of genetic engineering on the developing embryo or selecting the embryos on the basis of their genes²⁰. Dispositional enhancement would not restrict the acts a person can perform, but would change his or her dispositions to perform an act: and, in addition to this, it “changes the way we feel about certain behaviours”²¹. A racist person who is behaviourally enhanced may be prevented from harming people, but not from feeling hate towards people who do not belong to his community. A racist person who is dispositionally enhanced will no longer feel negatively towards people who do not belong to his community. However, although recourse to this kind of enhancement could be very useful in the future, it is difficult to think that we can make people “automatically” moral just by using bio-technologies and therefore by simply amplifying their “natural” dispositions. We have at least three reasons/arguments to defend this kind of conclusion.

Enhancing disposition and emotions does not necessarily produce moral actions

First of all, scientific and technological development could permit us to modify or enhance particular dispositions or emotions, without actually making people more moral. We can accept that “it is a general feature of all moralities that they require a degree of self-sacrifice and altruism – when and how much is dependent on the particular theory. But it is a prerequisite of moral action that one should sacrifice/constrain one’s own self-interest for some moral code for the benefit of others”²². However, by using bio-technology maybe we could make peo-

¹⁸ *Ivi*, p. 231.

¹⁹ D. DeGrazia, *Moral Enhancement, Freedom and What We (Should) Value in Moral Behaviour*, “Journal of Medical Ethics”, 40, 6, 2014, pp. 361-368, pp. 361-362.

²⁰ Jona Specker et al., *The Ethical Desiderability of Moral Bioenhancement: a Review of Reasons*, “BMC Medical Ethics”, 15, 67, 2014, pp. 1-17, p. 9; Molly Crockett, *Moral Bioenhancement: a Neuroscientific Perspective*, “Journal of Medical Ethics”, 40, 6, 2014, pp. 370-371; Larry Arnhart, *Can Virtue Be Genetically Engineered?* “Polit Life Sci” 2010, 29, 1, pp. 79-81. M. Walker argues “Engineering genetic virtue [...] would mean promoting genes that influence the acquisition of the virtues”. M. Walker, *Enhancing Genetic Virtue. A Project for Twenty-First Century Humanity?*, “Politics and the Life Sciences”, 28, 2, 2009, pp. 27-46.

²¹ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 255.

²² J. Savulescu, I. Persson, *Moral Enhancement, Freedom and the God Machine*, cit., p. 6.

ple more ready to sacrifice their own interests, be less aggressive and violent, willing to cooperate with others, able to control their immediate sentiments or more empathetic. But, enhancing these dispositions does not make them automatically moral. If there is no “moral sensitivity”, readiness to sacrifice own interests could become an important resource in carrying out wrong actions with maximum dedication. We can also accept the idea that a specific form of self-sacrifice is altruism, but altruism is not always compatible with the needs and requests of ethics. After all, we can also recognize that “agreeableness has a moderate heritable component”²³ and, for this reason, can be enhanced by using genetic engineering. But it is not true that “if the genes associated with agreeableness can be identified and enhanced, then a plausible conjecture is that there should be a corresponding increase in the virtue of caring in the population and reduction of the vice of uncaring”²⁴. Indeed, I might have a strong disposition for altruism and self-sacrifice and be, therefore, more ready to help my family, but indifferent to other people. I.e, the simple fact that I am helpful and compassionate to my father, mother, brothers and sisters, and maybe friends, does not necessarily make me moral.

The same discourse applies if, instead of agreeableness or altruism, we think of truthfulness or justice, as disposition or attitude to avoid habitually cheating others. And also it applies to our willingness to cooperate²⁵: the willingness to cooperate can be a sign of moral character, but it can reinforce group or community bonds and weaken care and attention for the others who cannot cooperate with us. Moreover, as every one of us can imagine, even a torturer has the ability to control impulses in order to prolong the agony and suffering inflicted on their victims. That is, the ability to control²⁶ their own impulses does not make people automatically moral: it depends on what kind of consequences it will produce on the other people and on the kind of moral sensitivity the person we are considering has. Then, we have to consider that too much self-control can have negative side-effects, because it can inhibit “desirable risk taking, spontaneity, and like enjoyment”²⁷.

Moreover, we can also think that “progress in the chemical and electrical enhancement of cognition, learning, memory, and decision making

²³ M. Walker, *Enhancing Genetic Virtue. A Project for Twenty-First Century Humanity?*, cit., p. 33.

²⁴ M. Walker, *Enhancing genetic virtue. A project for twenty-first century humanity?*, p. 34.

²⁵ J. Savulescu, I. Perssons, *Moral Enhancement, Freedom and the God Machine*, p. 9.

²⁶ *Ivi*, p. 9.

²⁷ James J. Hughes, *Moral Enhancement Model of Character Development*, “Cambridge Quarterly of Healthcare Ethics”, 24, 2015, pp. 84-95, p. 90.

will contribute to the enhancement of these moral capabilities”, but too much intelligence can have side-effects, for example it can lead to “perversely machine-like moral decisionmaking”²⁸. “Likewise – as Hughes underlines in a recent article – the use of excessive amounts of cognitive-enhancing stimulants can overstimulate dopamine and norepinephrine and impair learning, memory, and neural plasticity”²⁹. Then, a number of commonly-employed drugs can surely make people less able to inflict³⁰ serious harm³¹ (or to be much less aggressive) on other people³², but being less aggressive is not necessarily a virtue, because its value and virtue will depend on the circumstances and therefore on the consequences it can produce³³. There could be the risk of becoming too complaint and submissive or of altering the social norm that promotes prosocial behavior through punishment³⁴. I.e, a strong reduction of aggression could have a negative impact on society or adversely affect it and produce however less desirable and fair outcomes. Then some “aggression may be necessary to excel in some venue in life, such as sport or other competitive enterprise”³⁵ or to defend own country against an enemy³⁶.

Enhancing multiple dispositions does not necessarily produce a virtuous character

However, it has been told that this kind of problem could be overridden by a paradigm of enhancement aiming at improving multiple and interdependent virtues³⁷. However, even a multiple interdependent virtue enhancement paradigm – regardless of the technology we imagine – cannot be

²⁸ J. J. Hughes, *Moral Enhancement Model of Character Development*, p. 91

²⁹ J. J. Hughes, *Moral Enhancement Model of Character Development*, p. 91.

³⁰ Crockett has affirmed that his findings “provide unique evidence that serotonin could promote prosocial behavior by enhancing harm aversion, a prosocial sentiment that directly affects both moral judgment and moral behaviour” (M. Crockett et al., *Serotonin Selectively Influences Moral Judgement and Behaviour Effects on Harm Aversion*, “Psychology and Cognitive Sciences”, 107, 40, 2010, pp. 17433-17438, p. 17433).

³¹ De Grazia, *Moral enhancement, freedom*, 2014, pp. 361-362.

³² J. Savulescu, I. Perssons, *Moral Enhancement, Freedom and the God Machine*, p. 9.

³³ Sarah Chan, John Harris, *Moral Enhancement and Pro-Social Behaviour*, “J. Med. Ethics”, 2011, 37, 3, pp. 130-131, p. 131; Michael Hauskeller, *Better Humans? Understanding the Enhancement Project*, Routledge, London 2014.

³⁴ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 255

³⁵ *Ibidem*

³⁶ H. Wiseman, *The Myth of the Moral Brain. Limits of Moral Enhancement*, p. 106.

³⁷ J. J. Hughes *Moral Enhancement Model of Character Development*, p. 86.

useful to make people moral, because morality is connected to our ability to imagine solutions which can support the interests, wellbeing and needs of people in an original way. The virtuous character does not have to adapt him- or herself to pre-constituted definitions of virtue, but must imagine, using sensitivity, in what way his or her behaviour can best avoid damage to people and promote their welfare³⁸. Sometimes we make terrible mistakes and we have to reconsider our previous conclusions, and, by learning from the experiences, we can try new original solutions or take inspiration from other people and from their choices. But, often, mostly when we deal with different claims, there are no other paths: we have to imagine in which way we could combine many divergent interests. And this disposition is not acquired by means of medication or a technology of enhancing our “natural” ability to reason or feel what other people feel. It is acquired just through experience, practice and through encouragement which the individual receives from his/her society in whose interest it is to have autonomous, enterprising and, above all, morally “responsible” citizens.

That is, the modern moral thought is now closely related with the idea each of us has to take the responsibility of his/her actions, by considering the consequences on the others. Therefore, reducing ethics to a matter of unthinking and immediate dispositions³⁹ would do a disservice to the complexity of factors involved in moral functioning⁴⁰.

*Enhancing dispositions does not make people act for the right reasons*⁴¹

Moreover, we can imagine situations in which we can modify dispositions and sentiments that produce negative consequences for the other people involved. By using biotechnologies we could interfere with these people’s impulses and dispositions⁴²: for example, mitigate aversion to

³⁸ Roger Crisp, *Utilitarianism and the Life of Virtue*, “The Philosophical Quarterly”, 42, 167, 1992, pp. 139-160; Martha C. Nussbaum, *Poetic Justice: The Literary Imagination and Public Life*, Beacon Press 1997.

³⁹ H. Wiseman, *The Myth of the Moral Brain. Limits of Moral Enhancement*, p. 51; H. Wiseman, *Moral Enhancement – “Hard” and “Soft” Forms*, “American Journal of Bioethics”, 2014, 14, 4, pp. 48-49.

⁴⁰ H. Wiseman, *The Myth of the Moral Brain. Limits of Moral Enhancement*, p. 53.

⁴¹ “I take moral enhancement to involve enhancing our ability to think ethically (...), not manipulating the probability of some reacting in ways that others deem ethical”, J. Harris, *Taking Liberties with Free Fall*, “Journal of Medical Ethics”, 2013.

⁴² H. Wiseman, *The Myth of the Moral Brain. Limits of Moral Enhancement*, pp. 27-28.

certain racial group or reduce aggression^{43,44}. But also in these cases we are not necessarily improving people's moral character, because they could lack the capacity to act morally, i.e. for right reasons. Even if now they no longer feel a strong aversion to certain racial groups or do not have violent aggressive impulses, they could not be truly moral, because they could not have the capacity to reflect on their behaviour and to praise it. In other words, those changes in dispositions and attitudes would not amount to moral enhancement at all without changes in people's personal moral reasoning⁴⁵.

Those who defend the idea of moral bioenhancement think that "a virtue is a character trait that, generally speaking, produces good consequences for others"⁴⁶ and that "no specific psychological state [...] is necessary for virtue" and propose a "externalist theory of virtue, which does not make an appeal to any special internal states as defining virtue, but refers only to the external consequences of traits of character"⁴⁷, because, Walker says, "to insist that certain attitudes accompany the exercise of such disposition is to misunderstand what is definitive about virtue"⁴⁸. But, it is not enough to remove or enhance the feelings and disposition of people to make them moral, because virtuous behaviour does not coincide with natural dispositions that govern, in an immediate manner, human beings and their behaviour. What characterises morality is not the mere necessity of immediate reactions: morality presupposes the ability on our part to respond *reflectively* to events that occur and, starting from this, to ask ourselves how we must act and live, considering not just our personal interests but also the interests of other people⁴⁹.

⁴³ *Ivi*, p. 27.

⁴⁴ T. Douglas, *Moral Enhancement*, p. 231.

⁴⁵ J. Harris, *Ethics is for Bad Guys! Putting "Moral" in Moral Enhancement*, "Bioethics", 2013, 27, 3, pp. 169-173, p. 172. As John Harris says, "a second sense of responsibility, namely, accountability, is predicated on the idea that our decisions are our own, are expressions of our will, and not merely the products of brute forces, whether natural, social or divine. In short, it assumes that there is genuine power to choose behind governance and self-governance". J. Harris, ... *How Narrow the Strait! The God Machine and the Spirit of Liberty*, p. 250.

⁴⁶ M. Walker, *Enhancing Genetic Virtue. A Project for Twenty-First Century Humanity?*, p. 37.

⁴⁷ Alessio Vaccari, *Hume's Virtues and Moral Psychology*, 2015

⁴⁸ M. Walker, *Enhancing Genetic Virtue. A Project for Twenty-First Century Humanity?*, p. 37.

⁴⁹ As J. Harris says, an intervention that operates in this way has not to do with moral enhancement: "tinkering with emotions is not a form of moral enhancement at all. It is more like the threat of punishment: it may make immoral behaviour less likely, but it does not enhance morality", J. Harris, *Ethics is for Bad Guys! Putting "Moral" in Moral Enhancement*, pp. 3-4; J. Harris, *What It's Like to Be Good*, "Cambridge Quarterly of Healthcare Ethics", 2012.

We cannot limit the moral consideration just to the people who we are connected with, but we have to recognize it in every person affected by our actions, regardless of the time and the place in which they live⁵⁰. Naturally, we can have more strong feelings and passions towards some particular people. And naturally we do not intend to deny the value of sentiments towards particular people: to feel love for some people is not something that we are arguing is wrong. But we have to consider the correctness of our choices from an impartial perspective or from a firm and general point of view that permits us to evaluate which are those behaviours which other people could also accept and therefore endorse. It is this kind of experience that we call moral. If we do not have the capacity to assume, through personal development, supported by wider society, a critical point of view relative to one's passions and sentiments, we might also do the right thing and also promote the people's happiness, but we will not be really moral⁵¹. Indeed, a person is not moral if they lack the sentiments which permit them to approve their behaviour as something right^{52,53}.

Enhanced Empathy

Savulescu and Persson argue that by enhancing empathy we could overcome our partiality towards people to belong to our family and friends and make people moral, that is able to act by considering their actions from a general point of view. There are almost as many defini-

⁵⁰ Henry Sidgwick, *I metodi dell'etica*, Il Saggiatore, Milano 1995.

⁵¹ As John Harris says, "The sufficiency to have stood in man's ability to explain and justify his choices in terms that fully account for and explain his actions", J. Harris, ...*How Narrow the Strait! The God Machine and the Spirit of Liberty*, p. 251. Fabrice Jotterand, "Virtue Engineering and Moral Agency: Will Post-Humans still Need the Virtues?", *AJOB Neuroscience*, 2, 4, 2011, pp. 3-9: "While the manipulation of moral emotions might change the behaviour of an individual, it does not provide any content, for example, norms or values to guide one's behavioural response", p. 6; William Simkulet, *On Moral Enhancement*, *AJOB Neuroscience*, 3, 4, 2012, pp. 17-18.

⁵² R. Sparrows, *Better Living through Chemistry? A Reply to Savulescu and Persson on "Moral Enhancement"*, *Journal of Applied Philosophy*, 31, 1, 2014, pp. 23-32. As Sparrow says, "Anyone who has had a few glasses of beer knows that drugs can make us feel love where we would otherwise feel apathy or brave where we would normally be scared. (...) A stiff shot of whiskey might allow us to summon up the "courage" required to act morally in some particular instance but it will not succeed in making us 'more moral'".

⁵³ R. Sparrows, *Better Living through Chemistry? A Reply to Savulescu and Persson on "Moral Enhancement"*, cit.

tions of empathy as there is research on this topic. By following Michael Slote's analysis, we can say that "empathy involves having the feeling of another (involuntarily) aroused in ourselves, as when we see another person in pain. It is as if their pain invades us, and Hume speaks, in this connection, of the between what one person feels and what another comes to feel"⁵⁴. In other words, "we 'empathize' with others when we have (1) an affective state (2) which is isomorphic to another person's affective state, (3) which was elicited by observing or imagining another person's affective state, and (4) when we know that the other person's affective state is the source of our own affective state"⁵⁵. I do not intend to cast doubts on the important role of empathy for morality. But empathy is not just a passive disposition or tendency that governs human beings in an immediate and uncontrolled way: it is actually an active inclination, not least because it can become much more precise and refined if cultivated and trained. Therefore we might also imagine that in the future the bio-technologies could amplify and spread our "natural" empathetic dispositions as much as we want. However, bio-technologies cannot offer that essential refinement and training of our empathy that we can reach by being in relation with other people. Just by comparing ourselves with other points of view and the life experiences of other people we might develop a more adequate moral sensitivity. What other people tell us about their experiences and our behaviour and character allows us to develop greater ability to see the problems, and hence perceive important aspects of the situation which up to that point we had been unaware of. In other words, empathy is a *social practice* "through which ordinary people encountering one another in shared places (...) are nevertheless capable of coordinating with others and producing morality, together without the artificial machinations of political coercion, philosophy, religion or formal education"⁵⁶. And it does mean that we can develop refined empathy just through a lifetime spent gazing into the mirror of society⁵⁷.

On the other hand, the fact that empathy is not an immediate disposition or reaction, but a dynamic that effects agents as members of their society in which they live and, therefore, a *social practice* is strongly con-

⁵⁴ Michael Slote, *The Ethics of Care and Empathy*, Routledge, London 2007, p. 13.

⁵⁵ Tania Singer, Claus Lamm, *The Social Neuroscience of Empathy*, "Ann. N.Y. Acad. Sci.", 1156, 2009, pp. 81-96, p. 82.

⁵⁶ Fonna Forman-Barzilai, *Adam Smith and the Circles of Sympathy*, Cambridge University Press, Cambridge, 201, p. 62.

⁵⁷ F. Forman-Barzilai, *Adam Smith and the Circles of Sympathy*, p. 90.

firmed by the fact that our empathetic capacity can be strongly affected from social prejudices and ideologies. That is, we should also take into account that empathy can be easily manipulated^{58,59}. Once the other people are dehumanized it is more difficult to empathize with (them), and killing them is no longer an immoral act, but an act of decency and duty. I.e., the physical proximity (or an virtual proximity induced in people by using the new enhancing technologies) can be insufficient to stimulate or explain empathy. Then, empathy cannot just be easily manipulated or affected by important social habits, but it might also be strongly limited and turned off by “over-exposure”. The emotional impact of viewing images of catastrophes daily is seldom studied. But, as Ann Kaplan recently wrote, “Empathic sharing entails closeness but may lead to the over-arousal of vicarious trauma, or the sentimentalism of empty empathy”⁶⁰.

Moreover, empathy does not coincide with morality, because we can have empathic capacity, without having morality or a general and firm point of view. Indeed, the enhancement of empathy could strongly reinforce partiality towards own family and indifference towards people who do not belong to our narrow group⁶¹. That is, more empathetic people can be less fair than non-enhanced people, because empathy can be felt “towards a specific target, which could lead to a failure to help people other than that target – or even actions that help the target at the expense of others”⁶². For this reason, the optimal solution would be bioenhancement that permits enlarging (widening) the circle of empathy, but “this variant of dispositional enhancement does not, for the moment, seem available to us”⁶³.

In addition, there is not an intrinsic necessity to find a benevolent action where there is empathy. Indeed, this sentiment is not confined to the virtuous and human: “though they perhaps may feel it with the most exquisite sensibility. The greatest ruffian, the most hardened violator of the

⁵⁸ Jesse Prinz, *Is Empathy necessary for morality*, p. 226.

⁵⁹ F. Forman-Barzilai, *Adam Smith and the Circles of Sympathy*, Cambridge University Press, Cambridge, 2011 p. 151.

⁶⁰ Ann Kaplan, *Empathy and Trauma Culture: Imaging Catastrophe*, in Amy Coplan, Peter Goldie (Eds.), *Empathy: Philosophical and Psychological Perspectives*, Oxford University Press, Oxford 2011, pp. 255-276, p. 275.

⁶¹ R. Sparrows, *Better Living through Chemistry? A Reply to Savulescu and Persson on “Moral Enhancement”*, cit.

⁶² K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 257.

⁶³ *Ibidem*

laws of society, is not altogether without it”⁶⁴. Conversely, it could permit a sadist to inflict more suffering on victims, because he/she is more able to understand better what can make them feel pain. Then, a person can empathize with someone else, but care just for his own interests, because he lacks the sensibility to react to what happens to other people^{65,66}. In this way, empathy should be considered only as a premise/component of morality, requiring the inclination or tendency to contrast one’s own, merely egoistical attitudes and therefore the ability to see things in an impartial or reflective way⁶⁷.

This confirms that appropriate empathy cannot be obtained just through enhancing new biotechnologies because it seems to be strictly related to our capacity to recognize our limits and prejudices. Only by training this empathy, and therefore our (moral) sensitivity, can we hope to fully understand the lives of other people and the (hidden) reasons for their behaviour. We are a long way – therefore – from those perspectives that assume people can become moral only through enhancement produced by technologies. We do not understand how, through bio-technological interventions, enhanced individuals should be able to quickly recognize and know which action is right and be motivated to act as a result, without any hesitation, uncertainty or second thoughts. If empathy is this kind of social process, we doubt that its refinement can really be realised through biotechnological enhancement. We could have better chances to reach it through *education*, literature and movies, which open up a variety of lifestyles and situations to the individual⁶⁸.

Conclusion

Therefore, next biotechnologies will not even be able to make us automatically moral⁶⁹. We can already foresee that in the future it may be possible to develop interventions or substances which will enhance our

⁶⁴ A. Smith, *The Theory of Moral Sentiments*, p. 11.

⁶⁵ J. Prinz, *Is Empathy necessary for morality*, p. 219.

⁶⁶ *Ivi*, p. 221.

⁶⁷ Eugenio Lecaldano, *Simpatia*, Raffaello Cortina, Milano 2013, pp. 168-169.

⁶⁸ F. Forman-Barzilay, *Adam Smith and the Circles of Sympathy*, Cambridge University Press, Cambridge, 2011 p. 145.

⁶⁹ B.E.E. Fröding, *Cognitive Enhancement, Virtue Ethics and Good Life*, “Neuroethics”, 4, 2011, pp. 223-234.

cognitive and empathetic abilities. And we can also foresee that people with enhanced cognitive and empathetic abilities will have a greater opportunity to behave in positive ways, reducing, for example, those ways of behaving and dispositions that cause suffering to others. However, quite apart from the level of scientific and technological development we might achieve, we can never make human beings virtuous by simply using interventions or medications that act on their biological nature. Traditional education systems of the type we have used to date are also necessary. However, this does not mean that bioenhancement cannot play any role for morality. Education, socialisation, literature and cinema are important moral enhancing instruments – but, with the help of biotechnologies, their results could be more effective.

Moreover if a person, for example, already has moral attitudes, behaviour-altering effective enhancement could help him to resist the temptation to act badly. Or if a person has negative biases towards some persons or group of people, enhancement could help him to lose these biases towards these people⁷⁰. In other words, bioenhancement can be useful against the “weakness of the will”, which does thwart a person from acting on what they think is moral and right^{71,72}. In these terms, bioenhancement could produce moral enhancement and therefore make people moral, by making the people’s motivational dispositions stronger. Indeed, we can recognize that in order to act morally it is necessary to have the appropriate reasons regarding what represents a truly moral action. However, sometimes having correct beliefs or sentiments about what is morally required may not suffice, because our moral beliefs can lack motivational force⁷³. We are not speaking about turning people into moral robots just by changing or altering their dispositions, emotions or behaviour “but rather just giving persons who feel in need of assistance a ‘nudge’ in the right direction”⁷⁴.

It is true that the moral enhancement would not be achieved by personal effort and therefore it could be seem that a person who is virtuous by means of enhancement is not truly moral, as a doped athlete cannot

⁷⁰ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 260.

⁷¹ T. Douglas, *Moral Enhancement*, p. 229.

⁷² T. Douglas, *Moral Conformity and Enhancing Moral Worth*, “Neuroethics”, 2014, 7, pp. 75-91, p. 76.

⁷³ T. Douglas, *Moral Enhancement Via Direct Emotion Modulation: A Reply to John Harris*, p. 162.

⁷⁴ H. Wiseman, *The Myth of the Moral Brain*, p. 52.

be considered truly a sportsman^{75,76}. But the doped sportsman breaks the constitutive rules of the sport and makes it more difficult for the other athlete to win by becoming morally excellent by means of enhancement technologies and this does not hinder other people from becoming moral. Then “The goodness of my intentions, dispositions or act may depend on their consequences, their coherence, or their general accordance with some moral principle. But the goodness does not seem to depend on how we acquired these intentions”⁷⁷ because it is very difficult to know how we acquire intentions or dispositions⁷⁸. Moreover, even if exerting effort can confer some moral value on one’s actions, it could be argued that the morally worthiest actions or people are those who, when they face moral choices, are able to act morally well without significant effort⁷⁹.

Then, we can also accept the idea that attenuating or changing the main problematic emotions or dispositions “may allow an agent to engage in correct practical reasoning processes when that would not otherwise have been possible”⁸⁰. These interventions have been described as moral enhancement: “even if we accept that reasoning processes are the only motives susceptible of moral appraisal, attenuating an emotion might still count as a moral enhancement. Though emotions may lie outside the will, they may interfere with its exercise by corrupting reasoning processes”⁸¹. However, the fact that we could remove a lot of sentiments or emotions that prevent correct practical reasoning (for example, racial or aggressive dispositions and sentiments) is just the preliminary condition for the agent to act morally and above all to recognize the moral unacceptability of certain behaviours. Therefore, in this case it seems premature to talk of moral enhancement: even if we cancel or modify his/her morally unacceptable sentiments and emotions, the agent has yet to demonstrate that he (or she) is really a morally better person. However, there is no doubt that

⁷⁵ T. Douglas, *Moral Conformity and Enhancing Moral Worth*, pp. 84-85: “It might be thought that, when an individual could achieve a given increment in moral conformity thought either undergoing a brute conformity enhancement or engaging in deliberation, the brute conformity enhancement will invariably involve exerting less effort. If this is so, then we might have good grounds to suppose that brute conformity enhancements are less conducive to moral worth than typical deliberative conformity enhancements”.

⁷⁶ K. Jebari, *What to Enhance: Behaviour, Emotion or Disposition?*, p. 259.

⁷⁷ *Ibidem*

⁷⁸ Harris Wiseman, *The Myth of the Moral Brain*, p. 50.

⁷⁹ T. Douglas, *Moral Conformity and Enhancing Moral Worth*, p. 85.

⁸⁰ T. Douglas, *Moral Enhancement*, p. 232

⁸¹ *Ibidem*

interventions that reduce or cancel problematic emotions or dispositions could permit people to develop a moral perspective, because they could consider things without being influenced by biases and prejudice.