MORALITY AND FREEDOM:
A CRITICAL INVESTIGATION OF THE RELATEDNESS OF MORALITY AND FREEDOM, AND ITS SIGNIFICANCE FOR THE MORAL JUSTIFICATION OF THE PRACTICE OF BIOMEDICAL MORAL ENHANCEMENT

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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature……..

Date…March 2018……..

ABSTRACT

Recent scientific developments in areas such as biotechnology and biomedicine have led to a revolution in the field of biomedical enhancement and to the emergence of innovative and revolutionary possibilities of human enhancement. Biomedical scientists have been able to discover ways in which human beings could not only be enhanced in terms of their physiological make up, but also possibly with regard to their moral convictions and inclinations. Several advocates of this new possibility, referred to as biomedical moral enhancement, have maintained that biomedical moral enhancement could alter the current generally irresponsible and self-centred practices of people throughout the world today, create a sustainable future for forthcoming generations and the planet and make people morally better. Other scholars, on the other hand, have pointed out that the possibility of biomedical moral enhancement raises a number of important philosophical questions that require us to explore, understand and critically evaluate the practice as well as its possible implications. This study focuses on two of those important questions raised by the possibility of interventions of biomedical moral enhancement. The first question has to do with the nature and content of the norms in terms of which moral enhancements could be measured. The second, even more pertinent, issue is the question as to whether morality or a true moral disposition can be reconciled with the social determination that seems to inevitably follow from moral enhancement projects. In other words, does the fact of being morally better come at the cost of the exercise of individuals' freedom? Will people be morally better just because they have been "programmed" or "determined" to be so? And if this is the case, how can a true moral disposition, which seemingly inevitably involves the agent's freedom to choose the less moral choice or behaviour, be reconciled with the social determinism that seems to inevitably follow from interventions of moral enhancement? In the attempt to find an answer to the question raised above, this study investigates whether interventions of biomedical moral enhancement would curtail individuals' freedom and, if this is the case, whether this might affect individuals' ability to behave morally. This study is going to argue that a specific type of interventions of biomedical moral enhancement, namely behaviour-oriented interventions might pose a threat to individuals' freedom to fall and to conclude that, although interventions of biomedical moral enhancement might make people behave so as to bring about the morally desirable outcome, they will fail to make people morally better and also make the very notion of morality meaningless and worthless. This is because the curtailment of the freedom to fall, i.e. to behave immorally, also involves the curtailment of the freedom to stand, i.e. to behave morally.

OPSOMMING

Onlangse wetenskaplike ontwikkeling op die gebied van biotegnologie en biogeneeskunde het gelei tot ʼn revolusie in die veld van biomediese verbetering, en tot die verskyning van vernuwende en revolusionêre moontlikhede vir menslike verbetering. Biomediese wetenskaplikes kon maniere ontdek waarop mense nie slegs ten opsigte van hulle fisiologiese samestelling verbeter kon word nie, maar ook ten opsigte van hulle morele oortuigings en neigings. Verskeie voorstanders van hierdie nuwe moontlikheid, waarna verwys word as biomediese morele verbetering, redeneer dat biomediese morele verbetering die huidige algemeen onverantwoordelike en selfgesentreerde praktyke van mense regoor die wêreld kan wysig, ʼn volhoubare toekoms vir toekomstige generasies en die planeet kan skep, en mense moreel verbeter. Ander geleerdes, daarenteen, het uitgewys dat die moontlikheid van biomediese morele verbetering ʼn aantal belangrike filosofiese vrae opper, wat van ons vereis om die praktyk, asook die moontlike implikasies daarvan, te verken, te begryp en krities te evalueer. Hierdie studie fokus op twee van daardie belangrike vrae wat deur die moontlikheid van ingrypings van biomediese morele verbetering geopper word. Die eerste vraag handel oor die aard en inhoud van die norme ingevolge waarvan morele verbetering gemeet kan word. Die tweede, selfs meer relevante kwessie, is die vraag oor of moraliteit, of ʼn ware morele ingesteldheid, versoen kan word met die sosiale beskikking wat oënskynlik onvermydelik uit projekte van morele verbetering volg. Met ander woorde, kom die feit van moreel beter wees ten koste van die uitoefening van individue se vryheid? Sal mense moreel beter wees net omdat hulle geprogrammeer of beskik is om so te wees? En as dit die geval is, hoe kan ʼn ware morele ingesteldheid, wat op die oog af die agent se vryheid behels om die minder morele opsie of gedrag te kies, versoen word met die sosiale determinisme, wat skynbaar onvermydelik uit ingrypings van morele verbeterings volg? In ʼn poging om ʼn antwoord op bogenoemde vraag te vind, ondersoek hierdie studie of ingrypings van biomediese morele verbetering individue se vryheid inperk en, as dit die geval is, of dit individue se vermoë om moreel op te tree, beïnvloed. Hierdie studie sal aanvoer dat ʼn spesifieke soort ingryping van biomediese morele verbetering, naamlik gedragsgeoriënteerde ingrypings, ʼn bedreiging vir individue se vryheid om te val inhou en tot die slotsom kom dat, hoewel ingrypings van biomediese morele verbetering mense laat optree op ʼn wyse wat die moreel-gewenste uitkoms daarstel, dit nie daarin slaag om mense moreel beter te maak nie, en die hele konsep van moraliteit betekenisloos en waardeloos maak. Dit is omdat die inperking van die vryheid om te val, d.w.s. om immoreel op te tree, ook die inperking van die vryheid om te staan, d.w.s. om moreel op te tree, behels.

Dedication

This thesis is dedicated to my mother, Roberta Melita, and my father, Marco Mantovani, who loved, guided, supported, and believed in me even when it was quite difficult to do so. And secondly, but not less importantly, encouraged me to follow my dreams.

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Introduction

""But I don't want comfort. I want God, I want poetry, I want real danger, I want freedom, I want goodness. I want sin." "In fact," said Mustapha Mond, "you're claiming the right to be unhappy." "All right then," said the Savage defiantly, "I'm claiming the right to be unhappy""
(Huxley, 1932: 230).

One of the most revolutionary possible implications of the recent genetic revolution in biomedicine is the prospect of enhancing human beings morally, i.e. improving human moral inclinations and choices, thereby assuring that a social and environmental dispensation ensues that would be much more beneficial to mankind and the planet than is what foreseen if current irresponsible and self-centred practices continue. This prospect, generally referred to as biomedical moral enhancement, has quickly become one of the most controversial topics in contemporary biomedical and bioethical literature. The topicality of the possibility of biomedical moral enhancement is not surprising**.** Biomedical moral enhancement could have far reaching implications for humankind and the planet, it could change, for the better or for the worse, the very essence of human beings.

Think of what could happen if people could, via genetic manipulation, be enhanced to be less prone to violence, more honest in business dealings (or when exercising political leadership) or less selfish in insisting on transport modes that, through the burning of fossil-fuels, threaten to prematurely consume acceptable oxygen levels in the atmosphere. Will the world then be a better place? Will human beings finally be able to alleviate human suffering and to solve environmental catastrophes?

The idea that people could be morally enhanced is far from representing an innovative phenomenon. Moral enhancement, as a particular instance of human enhancement, represents a constant variable of human history. Education and socialisation, for instance, have long been used in the attempt to morally enhance individuals. In addition, practical improvement of morality has also been sought through theories about distributive justice and experiments with social policies that would insist on virtuous behaviour. However, as Bertrand Russell (1924:59-61) wrote:

> *"If men were rational in their conduct, that is to say, if they acted in the way most likely to bring about the ends that they deliberately desire, intelligence would be enough to make the world almost a paradise. In the main, what is in the long run advantageous to one man is also advantageous to another. But men are actuated by passions which distort their view; feeling an impulse to injure others, they persuade themselves that it is to their interest to do so. They will not, therefore, act in the way that is in fact to their own interest unless they are actuated by generous impulses which make them indifferent to their own interest. This is why the heart is as important as the head. By the "heart" I mean, for the moment, the sum-total of kindly impulses. Where they exist, science helps them to be effective; where they are absent, science only makes men more cleverly diabolic. [..]*
>
> *Our unconscious is more malevolent than it pays us to be; therefore, the people who do most completely what is in fact in their interest are those who, on moral grounds, do what they believe to be against their interest.*
>
> *For this reason, it is of the greatest importance to inquire whether any method of strengthening kindly impulses exists. I have no doubt that their strength or weakness depends upon discoverable physiological causes".*

It has only been recently that rapid advances in our understanding of the workings of the human body and mind have turned the prospect of the biomedical alteration of human beings and the possibility of making them morally better from the realm of speculation to reality. The current literature on the topic reports a variety of different positions. Several philosophers and bioethicists, such as Thomas Douglas (2008, 2013, 2014) and Ingmar Persson and Julian Savulescu (2008, 2010, 2011, 2012a, 2012b, 2013, 2017), have shown support for the possibility of biomedical moral enhancement. Ingmar Persson and Julian Savulescu (2012a) even define biomedical moral enhancement as an urgent necessity and they argue that it represents the last hope human beings

have if they wish to avert current environmental catastrophes, such as climate change, human suffering and the very extinction of the human species itself. They argue (2012a) that the current existential threats of climate change and terrorism cannot be avoided if human beings do not firstly overcome their, biologically and genetically based, moral limitations and deficiencies. Moreover, in the absence of effective moral enhancements, scientific progress would exacerbate the current situations causing enormous amounts of harm all over the world (Persson & Savulescu, 2012b).

Other philosophers, such as John Harris (2011, 2013a, 2013b, 2016) and John Shook (2012), have raised more concern about the possibility of biomedical moral enhancement. They claim that the possibility of biomedical moral enhancement raises a number of important philosophical questions. John Harris (2011), for instance, argues that moral enhancement could not only significantly curtail individuals' freedom but could also impact upon the common understanding of morality, making the very notion of morality itself meaningless and worthless. The important philosophical questions raised by the possibility of biomedical moral enhancement require us to explore, understand and critically evaluate the possibility of such a practice as well as what its possible implications could be.

In this thesis, I will specifically focus on two of the important philosophical questions raised by the possibility of biomedical moral enhancement. The first question has to do with the nature and content of the norms in terms of which moral enhancements could be measured. If we insist on the creation/construction of "better" people and are indeed able to "improve" the moral disposition of human beings, according to whose and which standards is that to be determined? How could such decisions be made? To assert that moral enhancement would create morally better people and enhance human moral capabilities, is to make a normative claim. In order to evaluate a normative claim, two conditions are required. The first condition is the identification of the specific capabilities, dispositions or traits that should represent the target of interventions of biomedical moral enhancement. The second condition is the identification of clear and adequate standards or

criteria of evaluation in terms of which the potential moral enhancement might be assessed. In the absence of such criteria it would be impossible to determine whether biomedical moral enhancement could successfully achieve proper moral enhancement and make people morally better.

The second, even more pertinent, issue is the question as to whether morality or a true moral disposition can be reconciled with the social determination that seems to inevitably follow from moral enhancement projects. Leaving on the side, for a moment, the issue of evaluation and the fact that biomedical moral enhancement only represents a possibility, a more significant question emerges. Suppose there are criteria for the evaluation of moral enhancement and suppose that biomedical enhancement is not a possibility but an actual practice commonly employed. Suppose, furthermore, that the practice is successful and that it actually makes people morally better. Does the fact of being morally better come at the cost of the exercise of individuals' freedom? Will people be morally better just because they have been seemingly programmed or determined to be so? Furthermore if this is the case, how can a true moral disposition, which seemingly inevitably involves the agent's freedom to choose the less moral choice or behaviour, be reconciled with the social determinism that seems to inevitably follow from interventions of moral enhancement? Can true freedom survive a practice where people may make choices that ensure less suffering (for humans, animals and plants) on earth, but have or remain with little choice in the matter? Is human freedom not fundamentally compromised by any effort to pre-determine the choices that people can make? In short, what happens to the nature and practice of morality in a situation where moral choice – which seemingly involves the possibility of making "wrong" choices (i.e. choices that may continue to have negative effects on the issues mentioned earlier) – is either terminated or significantly curtailed?

Before delving into the depth of the arguments, it is necessary to firstly clarify the problematic notion of biomedical moral enhancement and to provide the reader with a general overview of the

topic. In the first chapter, I will define and clarify the notion of biomedical moral enhancement and distinguish it from other related concepts such as human enhancement and moral enhancement, biomedical enhancement and therapy. With regard to the definition of the notion of biomedical moral enhancement, as there is already some disagreement about the notion, my attempt will be to arrive at a minimum and general conception of moral enhancement. This is because there are still too many conceptual lacunae in the understanding of the subject as well as too much philosophical disagreement to make a more comprehensive conception of biomedical moral enhancement possible.

Having clarified the ambiguous notion of biomedical moral enhancement, in the second chapter I am going to explore some of the main arguments and reasons that have been offered in support of the practice of biomedical moral enhancement. In particular, I will look at the challenging and persuasive argument developed by Persson and Savulescu. The aim of this chapter is to address two main questions. The first question is the one as to why human beings in fact need biomedical moral enhancement. The second question is the one as to what the advantages of biomedical moral enhancement are compared to other more traditional methods of moral enhancement.

In the third chapter, I am going to focus on the first of the two previously mentioned issues posed by the possibility of biomedical moral enhancement, namely the assertion that interventions of biomedical moral enhancement would make individuals morally better. As I have argued, in order to evaluate this claim two conditions require to be satisfied, i.e. the identification of the specific capabilities, dispositions or traits that should represent the target of interventions of biomedical moral enhancement and the identification of clear and adequate standards for evaluation in terms of which the potential moral enhancement might be assessed. I will firstly attempt to identify what the target of interventions of biomedical moral enhancement should be. Secondly, I will attempt to identify what the possible criteria for the evaluation of moral enhancement could be. More specifically, I will look at some possible relative and subjective criteria of evaluation and

identify the naturalist approach and the intercultural objectivism approach as frameworks that could enable the identification of objective criteria for the evaluation of interventions of biomedical moral enhancement.

In the fourth chapter, I am going to focus on the second of the two previously mentioned issues raised by the possibility of biomedical moral enhancement, namely whether it could be possible to reconcile the curtailment of individuals' freedom with the moral determinism that seems to inevitably follow from the practice of biomedical moral enhancement. This, however, requires us to firstly consider and critically assess whether interventions of biomedical moral enhancement would, actually, pose a threat to individuals' freedom. In the attempt to find an answer to this issue, I will look at the argument developed by John Harris. According to Harris, interventions of biomedical moral enhancement would significantly curtail individuals' freedom to fall, i.e. to commit morally deplorable acts; and thus, their very ability not only to behave immorally but also to behave morally because they will curtail individuals' ability to commit moral errors. Is this really the case? Does biomedical moral enhancement threaten our freedom to fall? Having critically considered and assessed whether interventions of biomedical moral enhancement would, actually, pose a threat to individuals' freedom, I will explore how the curtailment of individuals' freedom would affect morality and moral agency. In other terms, if interventions of biomedical moral enhancement would result in the curtailment of individuals' freedom, how would the loss of the freedom to fall impact upon our sense of morality? Could true morality still be possible in the absence of the freedom to fall? What would the possible implications of interventions of biomedical moral enhancement be?

In the conclusion, I am going to summarise the main findings of the study and to draw to make some final remarks. More specifically, I will argue that even if it could be possible to identify normative criteria for the evaluation of biomedical moral enhancement, the practice would severely undermine human moral freedom. Several advocates of the possibility of biomedical moral enhancement, such as Ingmar Persson and Julian Savulescu, argue that the curtailment of

individuals' freedom to fall would be justified by their moral improvement. However, I personally think that it would rather represent a significant loss. Moreover, I will argue that the loss of the freedom to fall undermines the whole project of biomedical moral enhancement by making the very concept of moral enhancement meaningless. This is because, I am going to argue, if biomedical moral enhancement would alter an individual's moral dispositions so that it would become impossible for them to behave in a morally wrong manner, it would also make it impossible for individuals to behave in the morally right manner.

Chapter One: Preliminary Clarifications

The enhancement of human traits and capabilities does not represent an innovative phenomenon and it has received academic attention for decades. More recently, a new possibility, referred to as biomedical moral enhancement, has sparked much interest in the worlds of biomedicine and bioethics. The possibility of biomedical moral enhancement has, in fact, quickly become one of the most debated and controversial topics in the current literature. The topicality of the possibility of biomedical moral enhancement is not surprising; it could change, for better or for worse, the very nature of human beings. However, despite its topicality, the notion of biomedical moral enhancement remains ambiguous and unclear. The current literature on the topic is characterised by disagreement on almost every aspect concerning the very notion, including the very definition of biomedical moral enhancement. Most of the disagreement stems from the fact that any consideration, evaluation and conceptualisation of biomedical moral enhancement is grounded in the acceptance of different moral perspectives and theories and, consequentially, on different conceptions of what it means to act morally and on what would constitute proper moral enhancement.

The existence of such an overall disagreement makes it difficult not only to offer a broad overview on the topic and on the current debates, but also to provide a definition of the notion of biomedical moral enhancement. However, a general overview of the latter and a clarification of the notion of biomedical moral enhancement are required in order to make sense of the arguments developed in this thesis.

The aim of this introductive chapter is to provide such general background, to clarify the notion of biomedical moral enhancement and to stipulate some preliminary definitions. Given the absence of an overall consensus on how the notion of biomedical moral enhancement should be defined, my aim is to define biomedical moral enhancement in its broadest terms.

Biomedical Moral Enhancement

Different scholars have proposed and defended different definitions and conceptualisations of the notion of biomedical moral enhancement. This, as I have pointed out, is mostly due to the fact that different moral theories offer different interpretations of what the term morality refers to. As a result, the adjective "moral" is ambiguous and can be defined in several different ways. The adjective moral is generally assumed to refer to what is concerned with principles of right or wrong behaviour. However, what should be referred to as moral mostly depends on the specific moral theory or framework accepted by the specific thinker or scholar that uses the adjective moral. For a utilitarian, for instance, a type of conduct or action is not intrinsically right or wrong. A moral action is the one that produces the best overall consequences. On the other hand, for a subjectivist, right and wrong are subjectively determined by the feelings of an agent and a moral action is an action that the subject just happens to feel or to think is the right one.

As a result, the term biomedical moral enhancement is used in a variety of ways and often with different meanings. Furthermore, alternative definitions are grounded in different understandings of moral enhancement and thus identify different interventions as instances of biomedical moral enhancement. Some scholars, such as Ingmar Persson and Julian Savulescu (2012a), use the notion of moral enhancement to refer to interventions that increase the probabilities that an individual would act so as to bring about outcomes that are morally more desirable than otherwise. They maintain that interventions of moral enhancement should target individuals' dispositions, attitudes and emotions and that successful moral enhancements would be achieved by any intervention that would make an individual more inclined to particular moral and pro-social dispositions, attitudes and emotions. Other scholars, such as John Harris (2011, 2016), understand moral enhancement as an improvement of an individual capacity for moral reflection and thus maintain that interventions of moral enhancement should target an individual's rational and cognitive abilities and that

successful moral enhancement would be achieved by any intervention that would improve an individual's cognitive capacities (Raus, Focquaert, Schermer, Specker & Sterckx, 2014).

Given the complexities that characterise the topic, I decided to analyse the notion of biomedical moral enhancement by breaking the concept into three main elements, namely human enhancement, moral enhancement and biomedical enhancement and by looking at each of them separately.

Human Enhancement

To enhance means to elevate, to augment, to make better, and to improve the quality or the extent of something. The phrase human enhancement refers to the enhancement of some capacity, ability or characteristic that normal human beings ordinarily have, or, more radically, to produce new ones. Human enhancement is generally pursued by means of interventions – human actions of many kinds, and, depending on the type of ability that it aims to enhance, it can be divided into three different types. Those three different types are physical, cognitive and moral human enhancement. The aim of physical enhancement is to improve human physical capacities. Athletes' use of drugs to increase their performance, for instance, represents an example of physical enhancement. On the other side, the aim of cognitive enhancement is to increase individuals' normal cognitive capacities such as memory, attention and reasoning, while the aim of moral enhancement is to increase individuals' moral capacities. Education for instance, has long been used to enhance individuals' moral knowledge and thus their moral abilities (Buchanan, 2011: 4).

Human enhancement, understood as the enhancement of different human traits such as physical and cognitive abilities or complex human behaviour such as morality, represents a constant variable in human history rather than an innovative phenomenon. The human effort for improvement and enhancement has, in fact, shaped human life as long as human beings have existed. As Albert Camus (1956: 11) claims: "*man is the only creature that refuses to be what he is*" and that constantly seeks new ways to improve and enhance himself, to become more than human, to

transform himself and to overcome his all too human frailties and limitations (Allhoff, 2010). Similarly, Jean-Paul Sartre (1948: 28) claims that: "*Man is nothing else but that which he makes of himself*".

In the attempt to elevate themselves and to improve their quality of life, human beings have successfully improved several of their physical, mental and emotional capabilities. Human beings have won control over fire and tools and they have forced a new – more favourable, world around them. By building shelters and raising animals and crops, human beings have enhanced their power over brute nature. Through education, culture, literacy and technology they have successfully improved their intellectual and cognitive abilities. Literacy and numeracy, in particular, represent some of the most striking examples of cognitive enhancement. Literacy and numeracy together have made possible the greatest cognitive enhancement to date: modern science. Computers and smart phones also represent instances of cognitive enhancement. They facilitate long-distance communication and give us rapid access to a vast amount of information (Buchanan, 2011: 8).

Furthermore, several of the most significant revolutions in the history of humanity would not have been possible without some types of human enhancement. The invention of writing, for example, dramatically enhanced human beings' cognitive abilities and led to important achievements such as the broadening of culture and information. The agrarian revolution, the emergence of cities and the improvements in transportation and communication technologies have all triggered processes that have, if not completely shaped, at least influenced, not only individuals' lives but also human history and progress (*ibid*.). However, human beings do not only desire to change the world around them. Human beings also desire to change and improve themselves. As I have argued, one way in which human beings have attempted to make themselves better, is through moral enhancement.

Moral Enhancement

Moral enhancement, as a particular instance of human enhancement, refers to any attempt to improve an individual's ability to behave morally, his moral reasoning or some of his moral dispositions and capacities, such as the capacity for fairness or altruism, that are assumed to be conducive to moral behaviour. In other words, what is at issue in moral enhancement is not the improvement of some physical and/or cognitive capacities, but the improvement of the ways in which we act or reflect morally.

As human enhancement, moral enhancement also does not represent an innovative and revolutionary phenomenon. Education and socialisation, among others, have long been used as means of moral enhancement. Human beings have attempted to morally enhance themselves since the very beginning of communal living. Moral enhancement has generally been pursued and achieved by means of traditional and indirect methods of enhancement such as education and socialisation. Those methods are generally referred to as indirect methods because they do not directly target or intervene in people's moral dispositions. They target other human capabilities, such as cognitive abilities and their aim is to make people more reliably produce morally correct ideas, motives or behaviours without committing to the content of those ideas, motives and actions (Baltimore, 2015). Education, for instance, targets the subject's ability to reason and to make reasonable judgements. As such, it has the potential to influence, indirectly, the subject's ability to behave morally. However, education and socialisation do not represent the only methods that have been used to morally enhance human beings. As Christoph Bubliz (2016: 88) argues, social orders have always striven to morally enhance individuals' behaviour in order to ensure social cooperation and security. Thus, not only education and socialisation, but also legal systems, religion and psychiatry, have been used as means of institutionalised arrangements to promote moral behaviour.

The notion of moral enhancement is, however, fraught with difficult theoretical and practical questions. This is mostly due to the fact there is no general agreement on how moral enhancement should be defined, nor on what the criteria for the evaluation of any moral enhancement should be.

More recently, some philosophers, bioethicists and scientists, such as Ingmar Persson and Julian Savulescu, have begun to seriously consider the possibility of morally enhancing human beings using innovative biomedical technologies. This possibility has quickly become a major topic of discussion in the current bioethical literature. Before looking at what the phrase biomedical moral enhancement refers to, it is important to shed some light on the notion of biomedical enhancement in general, as well as on the distinction between enhancement and therapy.

Biomedical Enhancement

As I have argued above, the enhancement of human traits represents a constant variable of human history and it is far from being an innovative and revolutionary phenomenon. Biomedical enhancement, on the other side, represents a recent phenomenon. The notion of human enhancement refers to interventions, intended as human actions, that improve some capacity or characteristic that normal human beings ordinarily have, or more radically, that create a new one. The notion of biomedical enhancement, on the other hand, refers to "*interventions that make use of biotechnology to cause an improvement of an existing capacity by acting directly on the body or on the brain*" (Buchanan, 2011: 5). The phrase biomedical enhancement is thus used to refer to those interventions that, by means of pharmaceutical, surgical or genetic techniques, make biological changes in human bodies and brains. The Oxford Uehiro Centre for Practical Ethics (2017) defines biomedical enhancement as "*the practice of employing biomedical technologies, such as drugs and surgical techniques to combat diseases and to augment the capacities of normal and healthy individuals*". Interventions of cosmetic surgery, athletes' use of steroid to improve their endurance and performance, the prescription of psychopharmacon to increase memory, elevate mood or improve cognitive capacities all represent instances of biomedical enhancement. In addition, also

factual or hypothetical genetic or neurological manipulation to increase the human lifespan, to acquire new sensory abilities or to develop a more social and moral character also represent instances of biomedical enhancements.

Biomedical enhancements can be analysed in two ways: according to the type of capacity they aim to improve and according to the mode of intervention they use to improve the capacity. The types of capacities that biomedical enhancements can improve include cognitive function, physical strength, speed and stamina, mood, temperament, emotional functioning and longevity (Buchanan, 2011: 5). The modes of biomedical enhancements include drugs, selecting which embryos to implant in the uterus, implanting genetically altered tissue into the body or the brain and technologies that connect computers directly to the brain (*ibid*.: 6). In many cases those interventions offer the possibility to restore human abilities and to prevent human suffering, to increase productivity and creativity, to make our life longer and our bodies and our minds stronger (Allhoff, 2010). Much potential progress in medicine, for instance, is the result of biomedicine. It is only thanks to progresses in biomedicine that, for the first time in history, human beings can cure or prevent –especially through vaccines- diseases that would have been fatal some decades ago.

It is important to note that the line between biomedical and other types of enhancements is often very blurry. Consider the case of caffeine. Caffeine is a drug that can heighten alertness but, at the same time, coffee intake constitutes a social practice outside the biomedical sphere. Furthermore, one should carefully distinguish between treatment and enhancement. What distinguishes biomedical enhancement from the mere restoration of human functions? What is the line between treatment and enhancement?

Enhancement and Treatment

In several cases the terms enhancement and therapy are used interchangeably as if they refer to the same thing. However, as Nicholas Agar (2013) points out, this is not always the case. In the

current philosophical and bioethical literature on the topic there are two broad approaches to defining biomedical enhancement. The first approach does not distinguish between enhancement and therapy, it identifies enhancement with improvement and defines human enhancement as "*any deliberative intervention that aims to improve an existing capacity, select for a desired capacity, or create a new capacity in a human being*" (Buchanan, 2011: 23). Allen Buchanan (*ibid.*), for instance, defines biomedical enhancement as "*any instance of deliberative intervention which makes use of biomedical science and directly intervenes on the human brain or body and whose aim is either to improve an existing human capacity or to create a new one*" (*ibid.*). This approach allows for the inclusion, in the denotation of the concept of biomedical enhancement, of medical as well as of non-medical interventions that are aimed at restoring the normal functioning of some human beings' capabilities, such as treating or curing diseases and distortions.

An alternative approach relativizes enhancement to human norms and distinguishes between improvements up to levels of functioning generally considered normal for humans, which are identified as mere therapy, and improvements beyond normal levels of functioning that are identified as identified as enhancements (Agar, 2013). Ryan Darby and Alvaro Pascual-Leone (2017), for instance, argue that therapy only refers to specific treatment for disorders and deficiencies which aims to restore the health of an individual. They argue that the distinction between treatment or therapy and enhancement is an important distinction and they have maintained that enhancements are interventions beyond therapy that increase capacities beyond normal levels rather than treat deviancies due to diseases (*ibid.*).

An exhaustive analysis of the relation between therapy and enhancement will be beyond the scope of this thesis. However, it is important to point out that such a distinction is particularly hard to articulate for three reasons. Firstly, therapy and enhancement are not mutually exclusive. Secondly, the activity involved in both practices is often the same. Thirdly, it is very hard to define

the standards of health and improvement against which the difference between therapy and enhancement should be measured (Council of Bioethics, 2002).

Biomedical Moral Enhancement

This thesis is concerned with a particular type of biomedical enhancement or, better, with the possibility of a particular type of biomedical enhancement, namely biomedical moral enhancement. Biomedical moral enhancement represents an innovative possibility[1]. Recently, some philosophers, bioethicists and scientists, such as Persson and Savulescu (2012a), Douglas (2008), Buchanan (2011) and DeGrazia (2014), have begun to seriously consider the possibility of employing biomedical means to morally enhance human beings. They argue that by directly intervening on individuals' brains to influence moral capabilities, it might be possible to increase the probability that these individuals will act in a more morally desirable manner. However, it is important to note that biomedical moral enhancement, at the moment, is still a possibility rather than a reality.

Although the debate is of recent date, biomedical moral enhancement has already become an established concept. Nevertheless, the notion is ambiguous. Scholars disagree on how the terms should be defined. Different scholars have proposed and defended different definitions. As John Shook (2012: 3) claims:

> *"Too many discussions are proceeding as if both the meaning and the possibility of moral enhancement were already widely understood and agreed upon. […] Asking such questions, and offering answers, depend on assigning some sense or another to "moral enhancement." However, clear and precise definitions of "moral enhancement" are not to be found; what has been called "moral" enhancement ranges from feeling empathic concern to increasing personal responsibility all the way to heightening respect for global fairness".*

[1] The idea of using biomedical interventions to improve moral behaviour is not completely new. In the late 60s' Josè Delgado, an early pioneer in brain stimulation, argued that progress toward a better society would require the use of both educational and biomedical interventions to improve moral motivations and reduce tendencies toward violence (Delgado, 1969). Furthermore, many modern ethicists' concerns for the amount of harm that progresses in science and technology could cause in the absence of an adequate moral status (Persson & Savulescu, 2012) seem to evoke Delgado's concerns for unrestrained advances in "technologies of destruction" (Delgado, 1969) without parallel advances in moral behaviour.

Thomas Douglas (2011: 3), focuses on moral motives and defines moral enhancement as: *"interventions that will expectably leave an individual with more moral motives or behaviour than she would otherwise have had*". David DeGrazia (2014: 1), on the other hand, focuses on moral capacities and emotions and defines biomedical moral enhancement as: "*interventions that are intended to improve our moral capacities such as our capacities for sympathy and fairness*". Finally, Persson and Savulescu (2012a) focus on behaviour and understand biomedical moral enhancement as interventions that, through biomedical means, alter peoples' moral psychology in order to make people more disposed to do the right thing or, at least, less disposed to do bad things.

Despite the existence of this overall disagreement, it is possible to state that the term biomedical moral enhancement, in its broadest sense, refers to the potential practice of manipulating individuals' moral behaviour by biological means in the attempt to make them morally better, i.e. to improve individuals' conduct or moral psychology.

As I have argued, moral enhancement does not represent a new phenomenon but it is actually as old as human communal living itself. However, biomedical moral enhancement does represent an innovative project. While the whole history of human communal living is full of attempts to promote, defend and enhance morality in order to benefit the community, these attempts were restricted to community enforcement through education, sanctions, moral codes and societal mores. What distinguishes the possibility of biomedical moral enhancement and makes of it a completely new phenomenon is that its aim is to achieve improvements in human moral capabilities by directly intervening on the human body or brain. Examples of biomedical methods of possible moral enhancement include the administration of drugs, such as serotonin reuptake inhibitors as a means to make individuals less inclined to assault other individuals, deep-brain stimulation as a way to reduce aggression, neurofeedback to increase sympathy and genetic interventions to gametes, embryos or postnatal human beings (DeGrazia, 2014: 2).

Most interventions of biomedical moral enhancement are instances of behaviour-oriented interventions, i.e. their aim is to alter individuals' behaviour. Depending on the strategy in which they attempt to make individuals morally better, i.e. to make it more probable that individuals would act or behave in a morally desirable manner, biomedical moral enhancement can be divided into, at least, three different types. These types are emotional, dispositional and cognitive enhancement.

Emotional and dispositional enhancements include interventions that attempt to morally enhance individuals either by altering an individual's emotions or dispositions (Jebari, 2014). Douglas (2008: 229), for instance, as I have pointed out, defines moral enhancement as any intervention that improves a person's moral motives: "*A person morally enhances herself if she alters herself in a way that may reasonably be expected to result in her having morally better future motives, taken in sum, than she would otherwise have had"* and thus identifies the alteration of an individuals' dispositions as the proper target of interventions of biomedical moral enhancement. Douglas (*ibid*.) himself admits that the estimation of the motives that require to be enhanced might most probably depend on prevailing normative parameters rather than on objective standards. He recognizes that the formula does not make it immediately clear what sorts of psychological changes would count as moral enhancement. This lack of clarity, he argues, has two main reasons. The first one is that there is little agreement on which motives are morally good and to what degree. This disagreement cannot be solved by appealing to some view about what sorts of consideration determine the moral goodness of a motive because here there is even less agreement. The second reason is that different people would have different ideas about what should count as a good motive and what should count as an improvement in one's motives (*ibid*.). Moreover, what counts as a good motive and what counts as an improvement also depends on the role performed by an individual. Legal reasoning might be desirable for a judge while, love might be more appropriate for a parent (*ibid*.: 4). However, he maintains that there is a wide range of emotions whose

reduction in the degree to which an agent experiences those emotions would constitute moral enhancement. This is because, Douglas argues, the attenuation of those emotions, such as racial bias, would most probably leave the individual with better moral motives overall.

Persson and Savulescu (2012a) also maintain that the aim of biomedical moral enhancement is the alteration of individuals' moral dispositions as a means to improve those moral sentiments and traits which are universally regarded as morally desirable and that are conducive to more moral behaviour. They argue that the aim of biomedical moral enhancement is to make individuals more likely to act morally by enhancing one or more of those individuals' traits that are generally regarded as conducive to morally desirable attitudes such as altruism, and a sense of justice and fairness. In other words, according to Persson and Savulescu (2008: 168 – 169), biomedical moral enhancement is the enhancement of individuals' disposition of altruism and their sense of justice and fairness. This means that biomedical moral enhancement requires the enhancement of individuals' moral sensitivity. Furthermore, the authors also propose some possible candidate moral enhancers. They argue that research has confirmed that dispositions of moral relevance have a neurophysiological basis and that evidence has shown that some neuro-transmitters, such as oxytocin, have been proven to influence morally relevant attitudes such as trust and sympathy (Baccarini, 2014: 1027). Their argument rests partially on the scientific research conducted by Molly Crockett et al.[2]

The enhancement of individuals' cognitive abilities has also been identified as possible strategy of moral enhancement. This is because enhancing an individual's cognitive abilities and capacities,

[2] Molly Crockett *et al.* conducted scientific research on the effects of serotonin, a neurotransmitter widely known for its role in the cure of depression, on moral behaviour and judgment. The aim of the research was to study the willingness of test-subjects to harm others by responses to variants of the well-known "trolley Dilemma". The study reported that "*serotonin directly modifies subjects' moral judgements and behaviours by means of enhancing aversion to personally harm others* "(Crockett et al., 2010: 17433). This has led the researchers to conclude that individuals under the effects of elevated serotonin are less likely to inflict harm to other people (*ibid.*). It is important to note that these possibilities for moral improvement by means of biomedical means do not assume biological determinism. The idea is not to create moral virtue pills or to implant an empathy tissue in individuals' brains. The idea is that, to the extent that moral virtues or dispositions have a biological base, it might become possible to improve or enhance them by intervening on human biology.

improves an individual's internal or external information processing systems and thus his ability to behave morally. In contrast to traditional methods of cognitive enhancement, such as education, that indirectly target moral capacities, interventions of biomedical moral enhancement attempt to morally enhance individuals by directly targeting cognitive functions through the administration of nootropics, i.e. drugs, supplements, or other substances that improve cognitive functions such as memory, creativity, or motivation. For instance, the prescription of memory-improving drugs which would help to increase human beings' truthfulness and thus, possibly, make people morally better. Furthermore, psychological studies have suggested that human beings tend to make specific cognitive errors and that some of those cognitive errors can contribute to patterns of behaviour that are traditionally called vices, such as the human tendency to attribute other people's behaviour to their personalities without taking into consideration other factors of possible influence such as the environment (Buchanan, 2011: 169).

This brief exposition has shown that, despite the existence of a general disagreement on the specific meaning of the term moral enhancement, supporters of the possibility of biomedical moral enhancement tend to agree that biological or genetic interventions might make individuals morally better by increasing the probability that they would act so as to bring about morally desirable outcomes and thus make people morally better.

As I am going to argue below, both those two claims require to be evaluated in terms of specific criteria or standards of evaluation. However, before turning on the conceptual and practical issues posed by the possibility of biomedical moral enhancement, it is worthwhile to look at some of the key claims that proponents of biomedical moral enhancement have made and on which they have based their arguments in favour of the need for biomedical moral enhancement. In other words, why do we need biomedical moral enhancement? What advantages can the practice offer compared to traditional methods of moral enhancement?

Chapter Two: The Case for Biomedical Moral Enhancement

Advocates of biomedical moral enhancement, such as Thomas Douglas (2008), Ingmar Persson and Julian Savulescu (2012a), argue that there is an urgent need to pursue research into the possibility of moral enhancement by biomedical means, i.e. by pharmaceuticals, non-invasive brain stimulation, genetic modification or other means of directly modifying biology, mainly for two reasons. The first is that the present time brings existential threats, such as climate change or global poverty and inequality, which human moral psychology, i.e. a basic set of moral dispositions, with its cognitive and moral limitations and biases, is unfit to address (Persson & Savulescu, 2012a). The second reason is that traditional methods of moral enhancement may prove inadequate to achieve the required improvements. Persson and Savulescu (*ibid*.) argue that moral behaviour has a partially biological or genetic basis and thus that moral behaviour should be enhanced via biological or genetic interventions. Is this really the case? Do we really need biomedical moral enhancements? is biomedical moral enhancement better than traditional methods of moral enhancement? The aim of this chapter is to address two main questions. The first question is why human beings in fact need biomedical moral enhancement. The second question is what the advantages of biomedical moral enhancement are if compared to other more traditional methods of moral enhancement.

In order to find an answer to the above questions, I am firstly going to look at some of the key claims on which arguments in support of biomedical moral enhancement are based. More specifically, I will explore one of the strongest and most persuasive arguments that have been developed in support of biomedical moral enhancement. This is the argument developed by Persson and Savulescu, who in a series of papers[3] and a book[4], develop a strong and persuasive argument in

[3] Persson, I. & Savulescu, J. 2008. The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity. *Journal of Applied Philosophy,* 25(3): 162 – 177; Persson, I. & Savulescu, J. 2010. Moral Transhumanism. *Journal of Medicine and Philosophy*, 35(6): 656 – 669; Persson, I. & Savulescu, J. 2011. Unfit for the Future? Human Nature, Scientific Progress, and the Need for Moral Enhancement, in Savulescu, J., Ter Meulen, R. & Kahane, G. (eds.). *Enhancing Human Capacities*. Oxford: Wiley-Blackwell. 486 - 500; Persson, I. & Savulescu, J. 2012. Moral Enhancement, Freedom and the God Machine. *The Monist*, 95(3): 399 - 421; Persson, I. & Savulescu, J. 2013. Getting Moral Enhancement Right: The Desirability of Moral Bioenhancement. *Bioethics*, 27: 124 – 131;

support of biomedical moral enhancement. Secondly, I will explore whether biomedical moral enhancement represents a better solution to individuals' moral deficiencies when compared to more traditional methods of moral enhancement.

The Case for Biomedical Moral Enhancement

In *Unfit for the Future: The Need for Moral Enhancement*, Persson and Savulescu (2012a) develop a persuasive argument in support of biomedical moral enhancement. The authors (*ibid*.) state that biomedical moral enhancement is both urgent and necessary, as it represents the last hope for human beings to avert what they call 'the ultimate harm'. The ultimate harm is something that will forever extinguish sentient life or damage its conditions so drastically that, in general, life will not henceforth be worth living. The urgency and necessity of biomedical moral enhancement are results of the fact that, according to Persson and Savulescu (2012a), human beings are morally unfit, i.e. unable, to cope and deal with the existential threats of modern times, such as climate change, terrorism, global poverty and inequality. Such threats cannot be avoided or solved if human beings do not first overcome their moral limitations and deficiencies.

On the basis of scientific findings from evolutionary biology and psychology, Persson and Savulescu (2013) hypothesize that the moral psychology of humans is unfit to cope with current existential threats because it evolved in conditions that were radically different from today's conditions: *"through virtually all their history, humans have lived in societies small enough for everybody to know each other, with simple technology which permitted them to affect only their immediate surroundings, and only in the immediate future"* (*ibid*.: 124). In other words, for almost as long as humans have walked this earth, the geographical and temporal scope of human action has been limited. As a result, their moral psychology evolved in order to fit these living conditions. However, in modern times these living conditions have radically changed as a result of scientific

Persson, I. & Savulescu, J. 2014. Against Fetishism about Egalitarianism and In Defence of Cautious Moral Bioenhancement. *The American Journal of Bioethics,* 14(1): 39 - 42.

[4] Persson, I. & Savulescu, J. 2012. *Unfit for the Future*. Oxford: Oxford University Press.

and technological progress. Many human beings now live in larger societies, and have advanced scientific technology at their disposal which enables them to exercise their influence all over the world and far into the future: *"scientific and technological progress have radically changed the conditions of human life. Today humans live in huge societies with an advanced technology which enables them to affect the environment globally, far into the future"* (*ibid*.: 124). In other words, according to Persson and Savulescu, there is a fundamental mismatch between scientific and technological progress and moral progress. While human living conditions have radically changed, human moral psychology remains unaltered. A significant part of the world's population has access to science and technology so powerful that, if misused, it could bring about the destruction of the human race, as well as the whole planet. The authors therefore conclude that biomedical moral enhancement represents the only hope to avoid existential threats and catastrophes.

Furthermore, Persson and Savulescu (2011) argue that the required moral enhancements should be pursued by means of interventions of biomedical moral enhancement. This claim is based on the acceptance of three main assumptions. The first one is that human beings have biologically or genetically based varying moral dispositions, i.e. tendencies to commit actions or omissions that are morally bad and can harm other sentient beings and the planet. The second is that it would be good to alter those moral dispositions that are morally bad because the alteration of those dispositions would result in the decrease in the amount of morally bad actions committed by human beings as well as to an increase in the amount of morally good actions performed by human beings. The last assumption is that traditional and already available methods of moral enhancement would fail to achieve the required moral enhancement. The argument developed by Persson and Savulescu is strong and persuasive and it is worth looking at it in more detail. The argument can be divided into four different claims.

The first claim seems to appeal to common sense and intuition. It states that it is comparatively much easier to cause great harm than to benefit to the same extent (Persson & Savulescu, 2011).

Persson and Savulescu (*ibid*.: 125) ask us to consider the case of a man driving in a densely populated area and they argue that even such a simple example clearly shows the fact that it is much easier to cause harm than benefit. The driver could easily kill many people, they argue, just by ploughing into a crowd, but he would probably not have the possibility to save an equal amount of people by avoiding ploughing into a crowd. Critics of interventions of moral enhancement, such as John Harris (2011, 2016), argue that whether it would be easier to cause harm than benefit would depend on different factors, including context and individuals' intentions. During a war, for instance, it would most probably be easier to cause harm rather than benefit. However, this does not imply that, in another context, the same claim would hold. Consider a different context, such as a hospital. In this case it would most probably be easier to cause benefit rather than harm. There are several other counter-examples in which it is easier for people to cause benefit than harm and which therefore contradict Persson and Savulescu's claim. One of the most convincing one is the case of Dutch video director Jasper Schuringa. On 26 December 2009, Schuringa prevented Umar Farouk Abdulmatullab from igniting explosives and potentially bringing down Flight 253 flying from Detroit to Amsterdam. As a result, he averted a terrorist attack and saved a great number of lives.

However, Persson and Savulescu (2011: 125) argue, the case of Schuringa represents an exception. Schuringa did cause more benefit than harm, but he had the opportunity to do so because of the specific and rare situation in which he found himself, i.e. a situation in which a large number of lives was threatened and he was in the position to eliminate that threat. Situations similar to Schuringa's one are extremely rare and thus it seems to remain the case that people are generally much more frequently in circumstances in which they could kill a number of people than in situations in which they could save an equal number of people. Furthermore, Persson and Savulescu do not intend to deny that in some situations people are capable of saving a great number of lives. They are rather arguing that to be in position to save a number of lives is a comparatively rare event, which escapes people's personal control. People have to find themselves in situations in

which the lives of others are under a threat that they could specifically avert (Persson & Savulescu, 2011).

The second claim states that due to the progress of scientific technology, we are now in a position to cause ultimate harm, that is, to make worthwhile life on this planet forever impossible (*ibid*.). This second claim, at first sight, also seems to be quite accurate: scientific and technological developments have radically changed the conditions of human life and they have significantly increased human power. It is a basic fact about the human condition that scientific and technological progress has enhanced our capacity to benefit others and to increase the average span and quality of human life but it also has enhanced our ability to harm and destroy. Persson and Savulescu (*ibid*.), more specifically, review two categories of means of causing ultimate harm. These are nuclear and biological weapons of mass destruction and environmental destruction and climate change. With regard to the first category of means, Persson and Savulescu maintain that, although it is comparatively difficult to fabricate a nuclear bomb, it might in the immediate future be within the capacity of a well-organised terrorist group. According to the authors, biological weapons of mass destruction are far easier to fabricate. But the main point is not the relative difficulty or easiness of creating such weapons of mass destruction. The point is that "*the exponential growth of scientific knowledge is likely to put in the hands of an increasing number of people such weapons of mass destruction, and if an increasing number of us acquire the capacity to destroy an increasing number of us, a small number of us who are malevolent or deranged enough to use this power will suffice to put all of us at a significantly greater risk of death and grave injury"* (Persson & Savulescu, 2017: 49).

Some critics of biomedical moral enhancement, such as John Harris (2011, 2016), Martin Rees (2004) and David Wasserman (2014), have pointed out that making people morally better might increase the possibility of avoiding the ultimate harm but that it is far from a complete and adequate solution. Rees (2004) argues that humans' moral deficiencies only represent one of the multiple

possible sources of harm. The incompetence and low level of intellectual development of those who have access to weapons of mass destruction also pose potential problems. Rees (*ibid*.: 61) states: *"disaster could be caused by someone who is merely incompetent rather than malign"*. However, Persson and Savulescu do not deny that other factors, beside moral deficiencies, could also pose problems. Persson and Savulescu deliberately decide to focus their attention on malevolence and wickedness because they want to make a case for the need for moral enhancement. Furthermore, contrary to what Harris and other critics insinuate, Persson and Savulescu do not imply that it is only immorality which presents a problem: *"To claim that there is a danger of large-scale harm from weapons of mass destruction unless humanity is morally enhanced only implies that it is necessary to remove the danger and not that to remove the danger, i.e. immorality, is sufficient"* (Persson & Savulescu, 2013: 126 – 127). Persson and Savulescu do not believe that biomedical moral enhancement, understood as the best means for the eradication of individuals' immorality, would solve all the problems and challenges that humanity is currently facing. However, they do maintain that the eradication of individuals' immorality is a necessary – although not sufficient – step.

The third claim states that human natural moral psychology is insufficient to prevent the occurrence of those catastrophic outcomes and thus that it is necessary to widen the horizons of actual human moral consciousness to successfully prevent any catastrophic outcome (Persson & Savulescu, 2011). According to Persson and Savulescu, human beings currently face problems, such as environmental disasters, global poverty and inequality, that require them to be able to make the morally right decisions[5]. However, they (2012a) argue, their current moral deficiencies seem to prevent them from making those decisions: "H*uman beings are not by nature equipped with a moral psychology that empowers them to cope with the moral problems that these new conditions of*

[5] I personally think that the difficulty also lies in the fact that it is unclear what a morally right decision is. Persson and Savulescu maintain that it is because of our moral psychology deficiencies that we are unable to act. However, they assume that the right course of action is clear. But what about the intricateness and complexity of the situations we face? Do not also these factors not also play a role in our inability to decide what is the right thing to do?

life create. Nor could the currently favoured political system of liberal democracy overcome these deficiencies" (*ibid*.: 1). The authors argue that because human moral psychology cannot cope with the sort of problems we face today, biomedical moral enhancement has become an urgent need. Moreover, they maintain that, since human moral psychology is biologically determined, it requires to be altered through biological or genetic interventions. Person and Savulescu (2013) hypothesize that these limitations are the result of the evolutionary function of morality, which is to maximize the fitness of small cooperative groups competing for resources. Human moral psychology, they argue, evolved in conditions very different from todays' conditions and, as a result, it involves a bias toward outcomes in the near future, an indifference to the suffering of great numbers and a bias against collective contributions to harm. The fundamental mismatch that exists between human moral psychology and today's living conditions is the cause of most of the problems that we are facing today such as environmental catastrophes. Furthermore, exponentially increasing and widely accessible technological advances and rapid globalisation create threats of intentional misuse, i.e. nuclear and biological weapons of mass destruction, and global collective action problems, such as the economic inequality between developed and developing countries, which human psychology is not set up to address. This is why biomedical moral enhancement is urgently required if human beings wish to avoid not only the destruction of the planet but the extinction of the human species itself:

> "*For the majority of our 150,000 years or so on the planet, human beings lived in small, close-knit groups, working hard with primitive tools to scratch sufficient food and shelter from the land. Sometimes we competed with other small groups for limited resources. Thanks to evolution, we are supremely well adapted to that world, not only physically, but psychologically, socially and through our moral dispositions. But this is no longer the world in which we live. The rapid advances of science and technology have radically altered our circumstances over just a few centuries. The population has increased a thousand times since the agricultural revolution eight thousand years ago. Human societies consist of millions of people. Where our ancestors' tools shaped the few acres on which they lived, the technologies we use today have effects across the world, and across time, with the hangovers of climate change and nuclear disaster stretching far into the future"* (Savulescu & Persson, 2012a: 1).

In other words, according to Persson and Savulescu, human beings do not have the moral strength to rightfully make use of massive power that technological and scientific progress has provided them, as people are not biologically and psychologically able to deal with the new challenges that characterise their current living conditions. This, has led to the proliferation of free riders' problems, i.e. situations in which many individuals receive the positive externality or benefit of a public good without contributing to paying their share of the costs of producing those benefits, which threaten the survival not only of human beings but also of the planet. On the one hand, human beings have the knowledge and the power to significantly impact not only fellow human beings but also the planet. On the other hand, in terms of their moral development they are too weak to make use of such knowledge and power in a rightful way, nor are they biologically or psychologically adequately structured to deal with the challenges that they are facing. According to Savulescu and Persson, human moral judgement fails to deal with major problems specifically because it involves a bias toward short-term outcomes and toward the suffering of others that are near to us in terms of geographical location and time period. However, they do not explain in more details why interventions of biomedical moral enhancement would be preferable to traditional methods of moral enhancement. This is quite a lack in the theory of the authors, and I will return to this criticism later on.

Other scholars, such as Mark Walker, have developed similar arguments. Walker (2009) argues that biomedical moral enhancement is urgently required because, to an extent, human beings are innately, i.e. naturally or biologically, evil. Walker (*ibid.*) maintains that biomedical moral enhancement represents the only hope available to human beings to eradicate their innate and biologically determined immoral tendencies. However, this argument is based on the preliminary acceptance of the assumption that moral traits have a biological or genetic basis. Although some studies have shown the existence of a link between biology and moral traits, it is still debated whether the correlation actually holds. Moral psychology, psychology, cognitive science and

neuroscience have struggled to discover and map psychological traits and their underlying neurophysiological mechanisms as well as the neurological systems that constitute moral reasoning and moral behaviour. While considerable progress has been made, there is still no complete knowledge of all the details and intricacies of the human mental processes that lead to the execution of moral and immoral action (Pustovrh & McCollister Pirc, 2016: 344 - 345). I personally think that in the absence of a complete understanding of the mechanisms of human moral psychology, there can be no agreement on whether there exists a correlation between moral traits and biology and thus on whether individuals could actually be morally enhanced through biomedical moral enhancement.

However, Persson and Savulescu (2017) do not claim that our understanding of the mechanisms of human moral psychology is complete. Nor do they claim that the correlation between moral traits and biology is proven. Persson and Savulescu (*ibid*.: 50) defend a cautious proposal and argue that it could be possible to find effective and safe biomedical means of enhancing central moral dispositions.

The final claim states that moral enhancement is urgent and deserves priority over other moralising policies and other kinds of enhancement because it is the only effective means to solve the problems that resulted from the mismatch between human primitive moral psychology and current scientific and technological power (Persson & Savulescu, 2011: 11). Human beings' limited moral capabilities are not developed enough to provide them with a reason to give up their selfish consumerist life-styles for the sake of our distant descendants or their distant contemporaries in faraway places, nor to make use of the power given to them by technology and science only when it does not harm fellow human beings. Given the fact that human beings are psychologically prevented from voluntarily dealing with environmental problems such as climate change, and problems of human suffering, such as wars and famine, legislation is needed to enforce effective changes. Persson and Savulescu maintain that equipping states with more effective methods of surveillance over citizens, such as intelligence agencies monitoring all electromagnetic

transmissions, phone calls, e-mail communications etc., could also constitute effective means to counteract current major problems. However, those means could only assist rather than replace biomedical moral enhancement because of their long-term benefits (*ibid*.). The authors recognize the fact that a similar solution would transform liberal states to the totalitarian state depicted in George Orwell's novel Nineteen-Eighty-Four. However, they argue that although the employment of such means of intelligence would violate several human rights, such as the right to privacy, these losses will be worth the gains (*ibid*.).

Furthermore, Persson and Savulescu (2017) leave aside traditional ways of moral enhancement, such as education, as they claim that such ways have been proven to be ineffective. They identify knowledge of human biology, and particularly knowledge of genetics and neurobiology, as the – potentially only – hope we have to directly and effectively affect the biological and psychological bases of human motivation. It is important to note that Persson and Savulescu do not deny the fact that human beings have developed morally in the course of their history, by means of traditional moral education. However, they (ibid.: 49) maintain that *"this development has been very modest in comparison to the growth of our powers of action as the result of scientific progress, and much more moral development must occur quickly to reduce the risk that we shall cause ultimate harm through our enormous powers of action"*. They maintain that traditional means are less effective compared to biological and/or genetic means of moral enhancement when it comes to helping us cope with the great evils of our time: "*Biomedical and genetic means may be much more effective in terms of both how thoroughly and quickly they could improve everyone in need of improvement"* (Persson & Savulescu, 2008: 168).

Having looked at the argument developed by Persson and Savulescu, in the next sections I will critically evaluate it. I will do so by attending to the following two questions: Do we really need biomedical moral enhancement? What are the advantages of interventions of biomedical moral enhancement compared to more traditional methods of moral enhancement?

Do We Really Need Biomedical Moral Enhancement?

The analysis of Persson and Savulescu's argument has suggested that we should take biomedical moral enhancement into consideration mainly for one reason, i.e. the existence of a fundamental mismatch between scientific and technological progress and human moral psychology. Human moral psychology is limited and unfit to deal with the existential threats that characterise current living conditions, and therefore interventions of biomedical moral enhancement are urgently required if human beings wish to avoid the ultimate harm. Interventions of biomedical moral enhancement aim at making people morally better, i.e. deepen their empathy for others and their sense of responsibility for the effects of their actions and omissions, and will make it easier for people to make choices that lessen the prospects of the ultimate harm.

It is generally agreed that human beings are far from morally perfect and that there is ample room for moral enhancement. However, I think that it remains unclear why one should prefer interventions of biomedical moral enhancement to more traditional, and already available, methods of moral enhancement. The fact that there is room for improvement, is not surprising and does not have to imply that we need biomedical moral enhancement. As David DeGrazia (2014) argues, human beings already have at their disposal many different means of enhancing their moral capacities: "*explicit moral instruction, mentoring, socialisation, carefully designed public policies, consciousness-raising groups, literature and other media that encourage moral reflection and individual efforts at improvement*" (*ibid*.: 361).

Furthermore, Persson and Savulescu seem to suggest that interventions of biomedical moral enhancement will solve most of the problems that threaten human existence, such as terrorism and climate change, and will avert the possibility of ultimate harm. However, as Elizabeth Fenton (2010) points out, Persson and Savulescu exaggerate the risks and undervalue the benefits of technology. Persson and Savulescu emphasise the dark side of technology such as the danger of mass destruction by small groups. However, technology does not only have a dark side, it also has a

bright side. Consider research conducted on pathogens such as infectious bacteria and viruses. Such research can contribute to the treatment and prevention of various infectious diseases but, at the same time, it can also bring about disasters if it is misused, say by terrorists. This seems to suggest that the problem is far from being technology or technological progress. I think that technology is basically neutral. What determines whether technology will be used for good or bad depends on individuals' intentions. Even though Persson and Savulescu focus on human moral psychology, they fail to take into account human intention, or conscious decision-making in general. They merely focus on the biologically determined side of human moral psychology, which naturally leads human beings to have certain moral values, convictions or responses. However, there might be a part of our moral psychology that we would consider free. We feel we can make decisions, and form intentions. We can choose to act, or not to act, in certain ways. So even though we might be biologically predisposed to value the present over the future, and our relatives, neighbours and fellow countrymen over people that stand further away from us, we can still decide to involve other people, other places and other times in our moral considerations. We can train ourselves to focus our care differently than what we are biologically inclined to care for.

The same applies to moral enhancement technologies. Persson and Savulescu assume that moral enhancement would make people morally better and help them to avoid the ultimate harm. However, as Thomas Douglas (2008: 242) states *"it may be that if we were to develop moral enhancement technologies, we would be unable to prevent their being used in undesirable ways – for example, to enhance self-interestedness or immorality"*. As it is the case with the misuse of any other technology, moral enhancement technology is also open to the possibility of misuse and thus could have catastrophic results.

Persson and Savulescu also overstate the role that moral enhancement, could play in the prevention of the ultimate harm. They identify moral enhancement as the solution to almost every current problem and existential threat. However, most of these problems and existential threats are

complex phenomena and thus cannot be reduced or solved solely from the viewpoint of morality. Terrorism, for instance, is a highly complex phenomenon and it is intertwined with various spheres including politics and economics. Furthermore, as Inmaculada de Melo-Martin and Arleen Salles (2015) point out, Persson and Savulescu characterise humanity's moral ills as the result of mainly individual moral deficits, i.e. moral deficits in people's motivations or dispositions. For example, in their article *Moral Transhumanism*, Persson and Savulescu (2010), focus on humans' limited moral psychology to cure a number of ills, including the lack of aid to developing countries: "*one factor behind the weakness of the inclination to aid is the hold that the act-omission doctrine has on our minds. Another factor is just as probably our limited altruism*" (*ibid*.: 35). I find the assumption that humanity's moral ills are the result of mainly individual moral deficits highly problematic. As Melo-Martin and Salles (2015) argue: "*the framing of moral complex situations such as war, famine, terrorism and poverty, as the result of certain types of individual moral failings ignores the role played by structural – social, cultural, political, economic - forces in enabling and often promoting these evils"* (*ibid*.: 228). Take racism for example, and the fact that individuals can have racist motivations and attitudes. However, to conceptualize the problem of racism and its consequences mainly as the result of individual psychological factors is simplistic. Racial discrimination is not simply the result of individuals' moral deficits. As de Melo-Martin and Salles (*ibid*.) state: *"historical, organisational and linguistic practices are part and parcel of the problem of racism, and particular institutional arrangements and policies that involve unequal distribution of basic goods have much to do with the presence of racist discrimination"*. Insofar as racism is the result of structural factors, it is difficult to understand how the enhancement of individuals' moral psychological states will help solve the problem of racism.

In addition, Russell Powell and Allen Buchanan (2016), argue that Persson and Savulescu underestimate the power of traditional methods of moral enhancement and the amount of moral progress that the human species has achieved by means of these methods. Persson and Savulescu

exaggerate the constraints evolution poses to moral progress and fail to take into account human being's capacity to extend their pattern of care and concern beyond the in-group, i.e. members of another culture, community, ethnicity etc. Russel and Buchanan (*ibid*.) maintain that socio-cultural, and not biomedical, means of moral enhancement offer the best prospect for addressing the problems currently faced by human beings (*ibid*.: 239). For instance, the human tendency to have an exclusivist morality, i.e. to consider people outside their group or community as not entitled to be treated according to the same moral rules entitled to those who belong to the same group or community, is not due to biological facts but rather to environmental and historical ones: "*in particular, we propose that exclusivist (Parochial, group-based) morality is the result of an adaptively plastic (conditionally expressed) moral response that is sensitive to environmental cues that were historically indicative of out-group threat*" (*ibid*.: 240). Consequentially, Russell and Buchanan (*ibid*.), assert that for human beings to become morally inclusive, the out-group should not be perceived as a threat. This seems to suggest that inclusive morality could be fostered by socio-cultural innovations rather than by biomedical moral enhancement.

What Are the Advantages of Biomedical Moral Enhancement?

Advocates of the possibility of biomedical moral enhancement claim that, in contrast to traditional methods of moral enhancement, which have proven to be unsuccessful, recent developments in psychology and neurology seem to suggest that human morality has a biological base and should be altered by means of biomedical interventions. In support of this argument, Persson and Savulescu (2012b) report that several different scientific and medical researchers have shown that the administering of neurotransmitters, such as serotonin or oxytocin influences individuals' morally relevant attitudes like empathy, altruism and aggressiveness. Furthermore, they argue that scientific studies and research have confirmed the neurophysiological base of dispositions that are morally relevant. In *Moral enhancement, Freedom and the God Machine*, Persson and Savulescu (2012b) claim that several antidepressants and antihypertensive drugs, which are already commonly

employed, affect human moral behaviour as a side effect. These drugs, they argue, in many cases are actually administered especially in virtue of their ability to alter individuals' moral behaviour as a side effect. Disulfiram, which is an anti-alcohol abuse drug, and Orlistat, which is a weight loss drug, are often administered to reduce sexual re-offending. Serotonin, on the other hand, represents another neurotransmitter implicated in moral behaviour often prescribed for depression, anxiety and obsessive-compulsive disorders but also to make individuals more fair-minded and willing to cooperate and reduce pro-social behaviour towards out-group members (*ibid*.: 400 – 402).

On the basis of these results, Persson and Savulescu (*ibid*.) maintain that pharmacological interventions represent the most appropriate means by which individuals' relevant moral traits, such as empathy, cooperation and trust, should be enhanced. In addition, they argue that interventions of biomedical moral enhancement would make people morally better, not only by enhancing their relevant moral traits, but also by reducing some moral defects such as racial biases and utilitarian judgements (Baccarini, 2014). This does not imply that Persson and Savulescu do not recognizes the existence of other methods of moral enhancement such as education and socialisation. However, they argue that such methods have proven to be inadequate and that, since moral traits are genetically and biologically based traits, they require to be altered by genetic and biological interventions. For these reasons Persson and Savulescu (2012a) conclude that biomedical moral enhancement represents the only hope that human beings have if they wish not only to avert environmental catastrophes and human suffering but also the extinction of the human species itself.

Furthermore, similar to Persson and Savulescu, Walker also considers traditional methods of moral enhancement inadequate. Human moral psychology has a biological base and thus requires to be altered on a biological base: *"For sure, it may be possible to minimize some contemporary evil through better socialisation, but it will never be possible to eliminate it so long as human nature remains unchanged"* (Walker, 2009: 29).

However, as I have pointed out, it is still not clear whether the knowledge available on human beings' psychology provides enough support for the idea that altering it would change human moral dispositions. In other words, it is highly debatable whether the limited knowledge available on moral psychology and neuroscience could actually provide scope for the success of biomedical moral enhancement.

Furthermore, according to John Sparrow (2014: 26), traditional methods of moral enhancement are preferable than more innovative methods of biomedical moral enhancement because they do not threat individuals' freedom, autonomy and subjectivity. Sparrow (*ibid*.) argues that traditional methods of moral enhancement are based on a subject versus subject relation while, on the other hand, moral bio-enhancement is based on a subject versus object relation which dehumanizes the individual. Moral education is a communicative action, it is based on moral equality and it is open to counterarguments and critical evaluation. The educator usually tries to transmit a message, but implicit in the relationship is the requirement that the educator must be able to justify the norms, content and reasons that the person being educated should accept (*ibid*.). In addition, such a relation is fully compatible with the freedom of the recipient of education. Biomedical moral interventions, on the other hand, are far from being communicative actions. They operate in instrumental and technical modes; they are based on inequality since they treat the recipient as an object rather than as a subject. In this case the recipient cannot respond with counterarguments, his autonomy is severely curtailed, he is merely treated as an object over which some external influence decides to impose and inculcate determinate dispositions. In other words, according to Sparrow (*ibid*.), what is at stake are the freedom, autonomy and subjectivity of the individual. This is why it is not unreasonable to embrace traditional methods of moral enhancement, while, at the same time, to refuse the more innovative practice of biomedical moral enhancement.

Secondly, but not less importantly, Persson and Savulescu, as well as other advocates of behaviour-oriented interventions of biomedical moral enhancement such as DeGrazia and Douglas,

maintain that traditional methods of enhancement are not effective enough. However, I think that one should not underestimate the importance of traditional methods of moral enhancement. As Harris (2016: 32 – 33) argues, traditional methods, such as education and socialisation, have been proved to be quite effective. They have led, for instance, to the emergence of moral principles, including principles of human rights and justice, and to the development of social and political institutions embodying these (*ibid*.).

Concluding Remarks

To summarise, Persson and Savulescu, as well as other supporters of biomedical moral enhancement, maintain that, because morality has a biological and genetic basis, moral enhancement can only be achieved by biological and genetic interventions. In addition, they argue that biomedical moral enhancement is urgently required because we are currently facing problems, such as environmental catastrophes, that pose serious risks to the survival of the planet and of the human species itself and that cannot be solved if human moral psychology remains unaltered. Supporters of biomedical moral enhancement do recognize the existence and the availability of several different methods of moral enhancement, such as education and socialisation, but they argue that such methods would either fail to achieve any successful moral enhancement or to achieve it before it would be too late.

On the other hand, critics of biomedical moral enhancement tend to agree on the need for moral enhancement, but they maintain that such enhancement should be pursued by means of more traditional and already available methods of moral enhancement. The main reason for this is that, even if theoretically justified, the possibility of biomedical moral enhancement is, however, fraught with difficult questions. This thesis is particularly concerned with two of those practical questions. The first question has to do with the criteria for the evaluation of any possible biomedical moral enhancement. The second question has to do with the relation between any possible biomedical

moral enhancement and individuals' freedom and autonomy. In the next chapter I will address the first one of those two questions into more details.

Chapter Three: The Criteria for Moral Enhancement

Advocates of biomedical moral enhancement claim that the practice would make people more moral, more decent and, altogether, better. As such, the possibility of biomedical moral enhancement represents significant possibilities. I think that most people would agree that human beings are far from morally perfect and, as Thomas Douglas (2008: 230) rightly points out, that *"there is clearly scope for most people to morally enhance themselves"*. Despite this being undeniably true, it is less clear how moral enhancement should be accomplished as well as what the criteria for the evaluation of moral enhancement should be. Supporters of biomedical moral enhancement claim that the practice would successfully make people better, i.e. more moral. This claim, however, is a normative claim and, as such, it requires to be evaluated in terms of criteria or standards of evaluation. What does it mean to be morally better? When is one to say that an individual is morally better? What are the criteria for the evaluation for biomedical moral enhancement? How might the alleged improvement be measured? Why should one prefer biomedical moral enhancement to more traditional methods of moral enhancement? If the proponents insist on the creation/construction of "better" people and are indeed able to "improve" the moral disposition of human beings, according to whose and which standards is that to be determined? How could such decisions be made? What should the target of enhancement be? What are the capabilities, dispositions or traits that we hope to enhance by means of interventions of biomedical moral enhancement? Secondly, but not less importantly, how are we supposed to evaluate whether interventions of biomedical moral enhancement achieve any real results?

These are some of the conceptual questions raised by the possibility of biomedical moral enhancement. As I have pointed out, supporters of biomedical moral enhancement claim that interventions of biomedical moral enhancement would make people better. However, the evaluation of this normative claim requires two conditions. The first condition is the identification of the specific capabilities, dispositions or traits that represent the target of enhancement. The second

condition is the identification of clear and adequate standards or criteria for the evaluation in terms of which the potential moral enhancement might be measured. In other words, irrespective of whether biomedical moral enhancement could actually successfully achieve moral enhancement, in order to evaluate the claim that biomedical moral enhancement would make people better, one needs to have standards or criteria according to which the claim can be evaluated. In the absence of such standards or criteria, it would be impossible to evaluate whether biomedical moral enhancement could actually be what it is claimed for it to be. The identification of what the possible criteria for the evaluation of moral enhancement should be is far from straightforward. This is because, as I have argued, different scholars embrace different moral theories or frameworks and thus different conceptualisations of what the notions of morality, moral enhancement and moral behaviour refer to.

In this chapter, I will attempt to find an answer to the questions raised above. Before looking at what the possible criteria for the evaluation of interventions of biomedical moral enhancement could be, I will attempt to satisfy the first condition by exploring what the adequate target of interventions of biomedical moral enhancement, should be. Secondly, I am going to explore whether it would be possible to identify objective criteria for the evaluation of moral enhancement. More specifically I will explore moral naturalism and intercultural moral objectivism as frameworks that could provide possible objective criteria for the evaluation of interventions of biomedical moral enhancement.

The Satisfaction of The First Condition

Scholars disagree on what the specific meaning of moral enhancement should be and they tend to disagree on what the target of interventions of biomedical moral enhancement should be. However, they tend to agree that to morally enhance an individual, generally speaking, means to bring about some biological or genetic alteration of some individuals' qualities so as to increase the

probability that he/she will behave in the morally "right" way while reducing the chances that he will behave in the morally "wrong" way (Pustovrh & McCollister Pic, 2016: 345).

This seems to imply that there exists universal agreement on what moral and immoral behaviour is. However, this is far from being the case. The notions of "morally right" and "morally wrong" often are vague and they tend to differ across societies and cultures. This seems to suggest that any attempt to morally enhance individuals according to specific and determinate moral views might well constitute a despotic act and it would violate individuals' freedom and rights. As Owen Schaefer (2015) claims such a project could undermine moral pluralism. People tend to disagree on what a moral life should look like. Some people might think that morality requires us to stick to moral principles such as 'do not kill' or 'do not steal' or that morality requires behaviour in accordance with environmentally friendly values. Some other might think that morality requires behaviour in accordance with conservative values such as 'strong partiality towards members of one's own community' and 'acceptance of tradition'. Some might be deontologists and have non-consequentialist commitments while some might be consequentialist and thus value good consequences rather than principles and norms. As Jesse Prinz (2011: 1) points out:

> *"Morals vary dramatically across time and place. One group's good can be another group's evil. Consider cannibalism, which has been practiced by groups in every part of the world. Anthropologist Peggy Reeves Sunday found evidence for cannibalism in 34% of cultures in one cross-historical sample. Or consider blood sports, such as those practiced in Roman amphitheatres, in which thousands of excited fans watched as human beings engaged in mortal combat. Killing for pleasure has also been documented among headhunting cultures, in which decapitation was sometimes pursued as a recreational activity. Many societies have also practiced extreme forms of public torture and execution, as was the case in Europe before the 18th century. And there are cultures that engage in painful forms of body modification, such as scarification, genital infibulation, or footbinding – a practice that lasted in China for 1,000 years and involved the deliberate and excruciating crippling of young girls. Variation in attitudes towards violence is paralleled by variation in attitudes towards sex and marriage. When studying culturally independent societies, anthropologists have found that over 80% permit polygamy. Arranged marriage is also common, and*

some cultures marry off girls while they are still pubescent or even younger. In parts of Ethiopia, half the girls are married before their 15th birthday".

Given such diversity of views about what morality requires, how can one determine what sort of change should count as an instance of moral improvement?

This poses a very serious challenge to any supporter of the possibility of moral enhancement – including biomedical as well as traditional moral enhancement. Supporters of biomedical moral enhancement, such as Persson and Savulescu (2012a) and Douglas (2008), claim that this should not lead to paralysis. Moral pluralism and moral relativism do not represent an impassable obstacle for the project of biomedical moral enhancement. Despite the existence of several different moral theories and standpoints, it is still possible to identify sentiments, emotions, dispositions and traits that are almost universally associated to moral persons and regarded as morally right. Altruism, fairness and empathy, for instance, represent dispositions that almost every individual would regard as morally valuable. The aim of biomedical moral enhancement should thus be an alteration of individuals' moral disposition, the enhancement of those aspects and traits that positively influence and impact on moral reasoning and behaviour (Pustovrh & McCollister Pirc, 2016: 348). In other words, as DeGrazia (2014: 4) argues, in determining what should count as instances of moral enhancement, one should stick to "*improvements that represent points of overlapping consensus among competing, reasonable, moral perspectives*". DeGrazia (*ibid.*) argues that this area of overlapping consensus is fairly broad and that it is actually possible to make a list of moral defects that almost everyone, regardless of their moral standpoint, would recognise as moral defects. Instances of those moral defects include antisocial personality disorder, defective empathy, significant prejudices against the interests of those outside one's group of identification and impulsivity in relation to violence (*ibid.*).

Peter Singer (1993) also makes a similar point. He argues (*ibid.*) that since ancient times, philosophers and moralists have expressed the idea that ethical conduct is somehow universal.

According to Singer (ibid.:1 – 16), almost every ethical theory irrespectively of its specific content, depicts ethics as something that is universal, i.e. moral rules and principles that hold for all people in all times and all places.

It is along these lines that most supporters of the possibility of biomedical moral enhancement define biomedical moral enhancement; as interventions that help individuals to act so as to bring about moral desirable outcomes, i.e. generally accepted norms of morality.

However, as Douglas (2008) recognizes, proper moral enhancement requires more than a mere adjustment towards pro-social and more desirable behaviour. This is because, as I will argue in more detail in the following chapters, as pro-social or desirable behaviour does not necessarily have to be moral, in the same way, an increase in pro-social or desirable behaviour does not necessarily imply an increase of moral behaviour. Furthermore, as Richard Dees (2011) points out, there is an urgent need for a standard of morality *"that entails the judgment that, for example, making people more trusting makes them morally better before we can conclude that a drug like oxytocin makes people more moral. In truth, of course, becoming more trusting as such does not make a person morally better – too much trust is morally irresponsible"* (*ibid*.: 13). Proponents of the possibility of biomedical moral enhancement claim that interventions of biomedical moral enhancement would make people better. A definition of what moral enhancement entails is a useful but not a sufficient condition for the evaluation of such a normative claim. In order to evaluate the claim, precise, clear and objective criteria or standards of evaluation are required. In the absence of such criteria, the claim that interventions of biomedical moral enhancement would make people better would be meaningless.

The Satisfaction of The Second Condition

What could the criteria for the evaluation of interventions of biomedical moral enhancement be? Should the enhancement be measured in terms of neurophysiological improvements to some natural

human capacity? Or should it rather be measured relative to some preferred normative standards for human conduct?

Some scholars, such as John Shook and James Giordano (2016), argue that as long as there is no general agreement on what morality and moral agency are, it is not possible to either define or to measure moral enhancement objectively. Shook and Giordano (*ibid*.) states that although it could be possible to get objective knowledge about the brain's functioning, objective knowledge about the brain's functioning is not the same as objective knowledge about moral psychology or about what is moral. For this reason, it would be misleading to refer to a pharmaceutical modification of the brain as a reliable moral enhancer just because that modification targets some type of neurological activity (*ibid*.).

Procedural Approach

In the attempt to overcome this problem, in their paper *Procedural Moral Enhancement*, Schaefer and Savulescu (2016) have developed a procedural approach to moral enhancement[6] which is based on the notion of moral reliability and on the identification of six particular factors or capacities related to moral reasoning that should represent the target of biomedical moral enhancement. Those factors are logical competence, conceptual understanding, empirical competence, openness, empathy and avoidance of bias. The authors argue that those factors represent character traits that, if improved, would make people more reliably and thus morally better. Furthermore, they argue that this approach has three main advantages. Firstly, it avoids commitment to a wide variety of substantive moral claims which could be controversial. Secondly, it avoids begging the question for or against particular views of morality. This is because, as Schaefer and Savulescu (*ibid*.: 2) argue: *"a more substantive approach where reliable agents were identified based on how frequently they produce the right moral judgements would require us to*

[6] The procedural approach developed by Schaefer and Savulescu is not completely innovative. It is based on the approach developed by John Rawls in *A Theory of Justice* (1971).

prejudice the content of those moral judgements". Thirdly, the approach allows for the identification of clear criteria for the practical evaluation of moral enhancement. Those criteria are the six factors identified above.

Logical competence refers to the ability to make proper logical inferences and deductions, spot contradictions and formulate arguments whose conclusions logically follow from premises. How is logical competence related to moral reasoning? And how could it be measured? Schaefer and Savulescu argue that logical competence is central to moral reasoning because correct moral judgements ought to be coherent. Awareness of logical rules is not enough. Moral reasoners should also have conceptual understanding. Conceptual understanding includes "*the clear understanding of moral ideas content, strength and scope and the ability to communicate that understanding effectively*" (*ibid*.:3). Conceptual understanding, as criterion for the evaluation of moral enhancement, could be measured by examining an individual's general capacities of reflection, attention to details, clarification and comprehension of abstract content.

Another important asset for moral reasoners is empirical competence which is the knowledge of non-moral, empirical facts about the world. This is because, the authors argue, individuals who are more competent at evaluating empirical claims will more reliably ascertain the truth of empirical premises and thus make more reliable evaluations. Another feature that contributes to moral reliability is openness, intended as the ability to recognize faults in one's reasoning processes. Openness is important because it enables a moral agent to reconsider his position and thus to potentially improve his behaviour, i.e. be morally better. However, as was the case for the first two factors, the authors fail to explain how empirical competence and openness might be measured as well as why they should represent criteria for the evaluation of moral enhancement. The last two factors are empathy or empathetic understanding and avoidance of bias. Empathetic understanding refers to a particular sort of psychological competence which enables an individual to understand and appreciate the interests at stake in various circumstances.

In other words, Schaefer and Savulescu identify six factors, let us call them X; that are needed for morality or moral behaviour and whose improvement would result in a moral improvement. Consequentially, they maintain that an improvement of an individual's capacity for X, would lead to that individual's improved moral behaviour.

According to Shook and Giordano (2016), the argument developed by Schaefer and Savulescu is fallacious. This is because even if X is needed for moral behaviour, this does not imply that X causes moral behaviour and it cannot guarantee that more X will positively influence moral behaviour. The same would hold for biomedical interventions that improve those individuals' dispositions or emotions that are conductive to moral behaviour (*ibid*.).

This seems to suggest that the criteria for the evaluation of moral enhancement cannot be objectively identified apart from human interactions and social expectations and thus cannot escape moral subjectivism and relativism (*ibid*.). This, however, does not necessarily imply that it would be impossible to identify possible relative and subjective criteria for the evaluation of interventions of biomedical moral enhancement.

Moral Vectoring and Moral Performance

Shook and Giordano (2016) argue that one of the possible ways to overcome the problem of objective criteria of evaluation is what he refers to as moral vectoring. Let us assume that altruism has been identified as a moral disposition that is conducive to moral behaviour. In order to measure alterations in an individual's disposition to altruism and thus alterations in his morality, one will have to measure the individual's level of altruism before the enhancement takes place and compare it with the individual's level of altruism after the enhancement has taken place. In other words, moral progress or moral enhancement should be measured in terms of the transition from a starting point to a final point (*ibid*.).

Alternatively, one could think of moral behaviour as a specific type of performance and thus measure moral enhancement in the same way in which one measures a performance i.e. against present well-known standards. In other words, if one thinks of moral behaviour as the execution of an action or the accomplishment of a given task or function, one can then evaluate how an agent performs moral behaviour against a set of evaluative criteria. Some of the criteria could, for instance, be the agent's level of altruism or the agent's ability to think logically.

The identification of the criteria discussed above, seems to suggest that interventions of biomedical moral enhancement could only be evaluated in terms of relative criteria which depend on the embracing of specific conceptualisations of morality and moral enhancement. Supporters of interventions of emotional enhancement, for instance, would consider the positive alteration of determinate emotions, such as altruism, as an adequate criterion for the evaluation of moral enhancement. On the other side, supporters of cognitive enhancement would rather identify alterations in determinate cognitive functions as an adequate criterion for the evaluation of moral enhancement. This raises another set of questions: who is to decide what the standards for the evaluation of the performance of moral behaviour might be? Furthermore, is it only possible to evaluate the performance of moral behaviour according to relative values and standards or is it possible to evaluate it according to absolute and objective standards?

Some scholars, such as Filippo Santoni de Sio, Nadira Faulmuller and Hannah Maslen (2012) argue that *"by giving up reference to any objective ethical standard, relative and subjective approaches make it impossible to distinguish the concept of moral enhancement from the concept of mental modification"* (*ibid*.: 15). According to Santoni de Sio *et al*. (*ibid*.), if one wants to use the concept of enhancement in a coherent way, then one cannot avoid referring to objective standards. If one does not refer to objective standards, one cannot judge human behaviour as anything other than different from something else. As also Shook (2012: 10) maintains, the failure to refer to objective standards can lead to the acceptance of: *"either subjectivism (e.g., where an ethical*

philosopher's verdict on the correct morality is shared by few others), or to prevailing social norms (by "discovering" that one's own society gets most moral matters about right), or possibly intercultural objectivism (coinciding with what the "better" cultures, in that theory's view, together hold to be moral)".

Marc Hauser (2013) also argues that it is impossible to speak of moral enhancement without referring to some objective standard, because the distinction between modification and enhancement would lose all meaning. This is because from a moral relativist point of view, different moral practices or different enhancements can only be said to be different and not better (*ibid*.: 5). However, the fact that a moral stance is taken from a subjective or relativist point of view, does not necessarily imply that an objective moral truth does not exist. The difficulty of knowing something is not the same thing as the impossibility to know something. Instead of the claim that it is impossible to find out what the objective criteria for moral enhancement could be, one should rather look for possible solutions. In the next sections I will consider two possible solutions, namely moral naturalism and intercultural moral objectivism.

Moral Naturalism Approach

A possible solution is offered by the standpoint of moral naturalism. The phrase moral naturalism refers to an approach to meta-ethics intended to cohere with naturalism in metaphysics. This approach is grounded in the naturalist assumption that morality, similarly to anything else that exists, has to be based on something in the natural world. In other words, from a naturalistic point of view, all facts and properties, including moral facts and moral properties, are nothing more than natural facts and properties, i.e. facts and properties about the natural world. This approach has two main advantages. Firstly, it provides a framework for organising information about the natural bases for human moral capacities without any commitment to a specific moral perspective or moral values. Secondly, by treating morality as the outcome of a biological and natural human process, it has the advantage of relying on science not only for the study of morality and moral behaviour but

also for the assessment and evaluation of moral behaviour and thus moral enhancement (Shook, 2012). Different naturalistic theories of morality provide slightly different accounts of morality. However, they all maintain that virtues, vices, moral rules and principles do not have an independent standing or a basis in a priori reasoning.

Addressing the issue from a minimal moral naturalism approach, which maintains that human morality is a naturally embodied and universally shared human practice, provides the possibility of relying on relevant sciences, such as behavioural and brain sciences, for studying how human beings manage to produce their moral valuations and perform whatever they take to be morality. As such, the approach allows for the identification of natural and objective[7] criteria for the evaluation of moral behaviour and thus moral enhancement (Churchland, 2011). One way of explaining this is to say that moral properties, i.e. goodness and rightness, are identical with natural properties, i.e. properties that figure in scientific descriptions or explanations of natural phenomena.

There are several different viewpoints within ethical naturalism. It falls outside the scope of this thesis to elaborate them all, but one of the most plausible viewpoints, and for our purposes most interesting, identifies goodness with the satisfaction of interests, where interests are understood as the objects of preferences. Protecting children, for instance, is a good thing because we care about children and thus we do not want to hurt them, i.e. we have an interest in the protection of children. Ethical reasoning then, i.e. reasoning about what is the right thing to do, is at heart reasoning about how to satisfy our interests (Rachels, 2000: 74 - 76).

However, the moral naturalist approach has been severely criticised for a number of reasons. The most important objection is that it commits the naturalistic fallacy. The naturalistic fallacy in essence entails deriving prescriptive or normative statements from descriptive or observational findings, i.e. to derive what ought to be from what in fact is. As a result, although ethical assertions

[7] According to the naturalist approach, individuals share many of the same values because they are basically alike in their interests, needs and psychological makeup. Furthermore, since individuals are assumed to share the same human nature, they are also assumed to share the same basic values (Rachels, 2000: 86).

are supposed to be prescriptive, the moral naturalist approach translates ethical assertions into descriptive assertions (*ibid*.: 97).

The Intercultural Moral Objectivism Approach

The standpoint of intercultural objectivism also represents a source for the identification of possible criteria for the evaluation of moral enhancement. This is because, according to the intercultural objectivism approach, there are objective and universal moral principles that are valid for all people, irrespective of their culture and their acceptance of specific moral frameworks. Louis Pojman and James Fieser (2011), for instance, argue that most human beings would agree that it is morally wrong to torture people just for the fun of it (*ibid*.: 39). This, however, raises a deeper question. Even if one accepts that objective moral principles exist, how are we to determine what those moral principles, that are supposed to apply to everyone/everywhere, are? This is an important and interesting question in its own right, but it falls outside the scope of this thesis to address it. Going back to the intercultural objectivism approach, Pojman and Fieser (2011) provide a brief list of principles that from the standpoint of the intercultural approach apply to everyone/everywhere. Those include 'do not kill innocent people', 'do not cause unnecessary pain or suffering', 'do not lie or deceive', 'do not steal or cheat', 'do justice', 'help other people and keep your promises and honour your contracts' (*ibid*.). It is interesting to note that the principles listed by Pojman and Fieser have one thing in common, namely that, they all contribute to the development and function of a healthy society. Furthermore, they are very general rather than specific. Their aim is to guide rather than to determine. This implies that their application to specific circumstances is determined by the individual applying them and thus that, although they might be universal, their application is not.

In other words, the intercultural objectivism approach helps us to identify what the possible criteria for the evaluation of moral enhancement should be, i.e. the criteria for the evaluation of moral enhancement should be represented by those standards for conduct which are deemed to be

morally desirable by one's own culture along with many or most other cultures. However, some scholars have argued that intercultural moral objectivism does not represent a viable solution. Santoni de Sio, Faulmuller and Maslen (2012) for instance, argue that intercultural objectivism cannot provide a sufficient standard against which moral enhancement can be evaluated for two reasons. Firstly, intercultural consensus does not always exist. Secondly, intercultural consensus may exist on immoral principles like slavery or sexual discrimination. In this case, regardless what the intercultural consensus on the topic might be; a neuro - technology that could make slaves or women happily accept and perpetuate their conditions could not be regarded as an instance of moral enhancement (*ibid*.: 16).

Concluding Remarks

The aim of this chapter was to explore the possibility of identifying objective criteria for the evaluation of moral enhancement interventions in general, and for the evaluation of interventions of biomedical moral enhancement in particular. I have briefly discussed two different frameworks for providing objective criteria for the evaluation of interventions of moral enhancement, namely moral naturalism and intercultural moral objectivism. Neither of the two approaches proved to be conclusive. Nevertheless, I believe that the inadequacy of these frameworks should not be taken as an indication that it is overall not possible to identify objective criteria for the evaluation of moral enhancement. More research should be devoted to the possibility and content of such objective criteria, for irrespective of our decision to pursue the project of biomedical moral enhancement specifically, they are required for the evaluation of any other types of moral enhancement, including traditional forms of moral enhancement such as education.

Chapter Four: Biomedical Moral Enhancement and Freedom

"Whose but his own? Ingrate, he had of me All he could have; I made him just and right, Sufficient to have stood, though free to fall" (Milton, 1.364 – 6).

Individuals like to consider themselves as free, i.e. they like to think of themselves as having the power to exercise choice and make decisions without constraints from within or without. Individuals like to see themselves as autonomous and self-determining beings, free to make their own choices and decisions, to act upon them and to choose their own path in their life. However, this is not always the case. Individuals' freedom is far from being unconstrained or unrestricted. Individuals' freedom is constrained by a variety of factors, such as cultural, social and economic backgrounds, education, socialisation, religion and social norms. Furthermore, an individual's freedom is also constrained by the freedom of other individuals as well as their choices and actions. However, there are certain realms of action in which individuals seem to be freer than in others. Morality is generally assumed to represent one of those areas in which individuals are free to make their own choices and decisions, to act upon them and to choose their own path. It is important to note that this has not always be the case. As Zygmunt Bauman (1993) points out, in times before our modern age, individuals believed that moral choice only pertained to choosing that which was generally regarded as wrong; choice played no role in opting for that which is right, since that which is right (e.g. following God's commands) was believed to be universally known. In as far as choice played any role in morality, it therefore always referred to choosing the wrong option. He (*ibid*.: 4) writes that: "*life as a whole was seen as the product of Divine creation, monitored by Divine providence. Free will, if it existed at all, could mean only freedom to choose wrong over right – that is, to breach God's commandments: to depart from the way of the world as God ordained it, and anything that visibly deflected from custom was seen as such a breach*". In other words, to be right, i.e. moral, was not a matter of choice, nor a matter of freedom, but rather of following the customary way of life and abiding by traditions and God's commandments.

All this changed, however, with the gradual loosening of the grip of tradition and religion. In the modern era, morality is deeply related to individuals' freedom and their ability to make choices and decisions. It is in virtue of their freedom and ability to choose that individuals are capable of acting morally. The big difference between pre-modernity and modernity, is that in the latter we, for the first time in history, are confronted with the possibility of choosing, not only the wrong thing, but also that which is right. That which is right is no longer self-evident in modernity as it indeed was in pre-modernity (*Ibid*.).

John Harris (2011) argues that some interventions of biomedical moral enhancement, i.e. behaviour-oriented interventions, threaten and preclude individuals' moral freedom and make the very notion of morality meaningless and worthless. More specifically, Harris (*ibid*.) maintains that behaviour-oriented interventions of biomedical moral enhancement would curtail individuals' freedom to fall, i.e. to commit morally wrong acts, and, in turn, their freedom to stand, i.e. to behave morally. According to Harris (*ibid*.), morally bio-enhanced individuals would act and behave as they are programmed or pre-determined to act, rather than as they freely and autonomously decide to act. However, since proper moral behaviour is the result of free, autonomous and responsible choices, their behaviour could not be referred to as moral.

Harris' objection raises a serious concern with regard to the project of biomedical moral enhancement. Irrespective of how moral enhancement should be assessed and the fact that biomedical moral enhancement only represents a possibility, a more significant question emerges. Let us suppose, for the sake of the argument, that there are adequate criteria for the evaluation of moral enhancement and that biomedical enhancement is a therapy generally undertaken by most individuals. Let us suppose, furthermore, that interventions of biomedical moral enhancement are successful and that they actually make people morally better. What would the price of such moral enhancement be? Would interventions of biomedical moral enhancement curtail individuals' freedom?

Will bio-enhanced individuals be morally better because they have been programmed or determined to be so? And, if this is the case, how can a true moral disposition, which seemingly inevitably involves the agent's freedom to choose, be reconciled with the social determinism that seems to inevitably follow from interventions of biomedical moral enhancement? Can true freedom survive a practice where people may make choices that ensure less suffering (for humans, animals and plants) on earth, but have or remain with little choice in the matter? Is human freedom not fundamentally compromised by any effort to pre-determine the choices that people can make? In short, what happens to the nature and practice of morality in a situation where moral choice – which seemingly inevitably involves the possibility of making "wrong" choices (i.e. choices that may continue to have negative effects on the issues mentioned earlier) – is either terminated or significantly curtailed? I find this problem particularly intriguing, not least because it shares so much with the arguments made by theists in response to the infamous problem of evil[8].

Before looking at the relation between individuals' freedom and morality and before exploring to what extent and to what degree interventions of biomedical moral enhancement could affect this relation, it is necessary to clarify the freedom to fall objection and to critically assess whether and to what extent interventions of biomedical moral enhancement would actually threaten individuals' freedom to fall. In order to do so, I will firstly look at Harris' objection and clarify what the kind of freedom that might be threatened by interventions of biomedical moral enhancement is. Taking Harris' freedom to fall argument as a starting point, I will argue that what is at stake is specifically this freedom to commit moral wrongs. Secondly, I will look, in more details, at the notion of the freedom to fall. More specifically, I will argue that the notion of the freedom to fall should be understood as a kind of existential freedom which includes both the freedom of action and the freedom of choice and that it is of utmost value because it is strictly related to autonomy.

[8] The problem of evil represents one of the most debated topics in theism and it refers to the question of how to reconcile the existence of evil with an omnibenevolent, omniscient, and omnipotent God.

Furthermore, I will argue that the freedom to fall is actually threatened by some kind of interventions of biomedical moral enhancement, namely behaviour-oriented interventions.

Then, I will consider and evaluate whether the curtailment of individuals' freedom to fall, which seems to inevitably follow from interventions of biomedical moral enhancement, might be reconciled with the possibility of moral behaviour. More specifically, I will argue that behaviour-oriented interventions render the notion of morality meaningless because, by curtailing individuals' freedom to fall, they also curtail two important requirements for moral behaviour whose exercise necessarily depends on the freedom to fall, namely reasoning and responsibility.

Harris' Objection

In his article "Morality and Freedom", Harris (2011) develops a strong and persuasive argument against the possibility of biomedical moral enhancement. He severely criticises the project mainly because of two reasons. The first is that it will curtail individuals' freedom to fall and their autonomy, i.e. individuals' ability to choose their own path through life, to freely take their decisions and to act upon them. The second one is that, by pre-determining or programming individuals' behaviour, behaviour-oriented interventions of biomedical moral enhancement would render the very notion of morality meaningless and worthless rather than making individuals morally better (*ibid*.).

It is important to note that as Harris (2016: 77 – 78) himself claims: "Let me make clear at once that I do not believe there is anything inherently wrong with moral bio-enhancement. I have been an advocate for human enhancement for over thirty years, writing four books defending such enhancements. […] Unlike Buchanan, however, I do not define enhancements in terms of the intention or the motivation of those who produce them, but rather in terms of their effects". Harris does not object to, or criticize, every instance of moral enhancement. As it has been argued in the previous chapters, the notion of biomedical moral enhancement is used to refer to different types of

interventions which have different aims and which make use of different means. Harris (2016: 7 – 8) criticizes a specific type of moral enhancement:

> *"now neuroscience is developing interventions that act directly on the brain, influencing behaviour, attitudes, and dispositions, affecting motivation, and, some claim, raising the possibility of adding moral enhancement to physical and cognitive enhancement. These possibilities, if that is what they are, raise important issues of liberty and responsibility which not only affect our sense of who and what we are, but literally of the extent to which we are, or can remain, masters of our fate, entities which create ourselves by our decisions and actions".*

Harris then is critical of those intervention of biomedical moral enhancement whose aim is to predict or program individuals' behaviour irrespectively of the means they use to achieve such an aim. In what follows, I am going to use the term behaviour-oriented interventions to refer to this kind of moral enhancement.

Back to Harris' objection, his argument is based on two claims. The first claim is that individual moral liberty, which he refers to as the freedom to fall, is of utmost importance. As I am going to argue below, this is because it is deeply related to individuals' autonomy. The second claim, is that the freedom to fall represents a necessary pre-requisite for morality and moral behaviour. I will elaborate this in more detail, but in short this is to say that there is no virtue in doing what one must do. For something to be moral, it has to be the result of a free and responsible choice. Starting from those two claims, Harris (2011) argues that the curtailment of individuals' freedom to fall would not only negatively impact individuals' freedom to act in a morally deplorable way but also their ability to act morally at all. This is because, according to Harris, something can only have moral value or meaning if it is the result of a free and autonomous choice: "*autonomy surely requires not only the possibility of falling but the freedom to choose to fall, and the same autonomy gives us self-sufficiency*" (*ibid*.: 104). By making it impossible for individuals to act immorally, behaviour-oriented interventions would also make it impossible for individuals to be virtuous and to act morally. In the absence of the freedom to act immorally, to act morally would become a mechanical

act rather than a free choice. In the absence of the freedom to fall, individuals would not act out of freedom but rather because they have been designed, in some way, to act in a certain way. As a result, Harris (*ibid*.: 110) argues, morality would be replaced by moral compulsion: "*doing the good will not be a choice but a mechanical act and, since there is no virtue in doing what one has to do, such a mechanical act would not be worth neither moral appraisal nor moral blame: sufficiency to stand is worthless without the freedom to fall*".

It is important to note that, according to Harris, the problem is not that individuals will not be able to act immorally; but rather that individuals would lose their ability to be virtuous and to act morally in the first place. However, in order to make sense of Harris' objection it is necessary to clarify the notion of the freedom to fall and to critically consider and assess whether behaviour-oriented interventions would actually threaten individuals' freedom to fall.

The Freedom to Fall

In an allusion to John Milton[9], Harris refers to the kind of freedom threatened by behaviour-oriented interventions of moral enhancement as the freedom to fall. On a first reading, the freedom to fall seems to refer to individuals' freedom to act in a morally wrong way. However, as Jonathan Pugh (2017) points out, Harris fails to adequately explain what kind of freedom is threatened by the possibility of biomedical moral enhancement and, as a result, the notion of the freedom to fall remains ambiguous and unclear. Furthermore, Pugh (*ibid*.) argues that the ambiguous nature of Harris's notion of the freedom to fall is exacerbated by the fact that in some passages Harris relates the notion of the freedom to fall to the notion of autonomy and he seems to suggest that the freedom to fall should be understood to incorporate both the freedom of action to do immoral things and the freedom of choice to perform those actions (*ibid*.). How should the notion of the freedom to fall be understood? It is possible to identify, at least, three potential candidates for an appropriate

[9] John Milton (1608 – 1674) was an English poet. In his famous epic poem *Paradise Lost* (1667) he used the notion of the freedom to fall.

understanding of the notion of the freedom to fall. These three possible candidates are the freedom of action, the freedom of choice and free will. I will look at each of these three kinds of freedom separately and show that none of them adequately covers the realm of the freedom to fall. I will then propose an alternative interpretation of the notion of the freedom to fall which is based on an existentialist understanding of freedom, which includes both the freedom of action and the freedom of choice.

Pugh (2017) claims that, on a first reading, the freedom to fall seems to refer to an individual's freedom to act in a morally wrong way. However, if one takes the freedom to fall to merely refer to the freedom to act in a morally wrong way, Harris's critique is not very impressive. As has been argued by several advocates of the possibility of biomedical moral enhancement, such as Douglas (2008: 146), the loss of individuals' freedom to fall, understood as an individual's freedom to act immorally, is a bearable loss: "*In many cases it seems preferable to sacrifice some freedom to do evil in order to prevent evil. If I witness one person about to murder another one, it seems that I should intervene to prevent the murder even though this involves restricting the prospective murder's freedom do to do evil*". Moreover, as DeGrazia (2014: 367) points out, in some cases the curtailment of an individual's freedom to act immorally does not even represent a great loss: "*the elimination of freedom [to fall] with respect to rape and child molestation is no great loss*".

In this respect, I side with the critics. As long as one understands the freedom to fall merely as the freedom to act in a morally wrong way, the curtailment of such a freedom does not seems to pose a serious problem or, at least, not an insurmountable one. However, as Christoph Bublitz (2016) claims, the notion of individuals' freedom of action does not capture the entire space of the freedom to fall. The freedom of action is deeply related to another kind of freedom, namely the freedom of choice, i.e. the freedom to choose to fall, to do the morally wrong thing. In his article *Morality and Freedom*, Harris (2011: 103) himself claims that the kind of freedom he is talking about has to be understood as "t*he exhilaration and joy of choosing - and changing at will - our*

own path through life". In a later passage Harris (2014: 130) remarks that "*while we are free to fall […] we have the wherewithal to stand if we choose*". Harris' insistence on the importance of the ability to choose seems to suggest that the notion of the freedom to fall should be interpreted as a particular kind of the freedom to choose: the freedom to choose to act immorally.

This implies that, in order to make sense of the notion of the freedom to fall, one must understand the notions of freedom of action and freedom of choice as two sides of the same coin. As Harris (2014: 249) argues, the value of the two freedoms is not easily distinguished: "*Agents are quintessentially actors; to be an agent is to be capable of action. Without agency, in this sense, decision-making is […] both morally and practically barren – literally without issue!*".

Although the freedom of action and freedom of choice refer to different dimensions of the freedom to fall, they are deeply related and cannot, and should not, be considered in isolation. The reason for this is that an individual will only be able to take advantage of his freedom of action to perform X if he is first able to form the motivating desire to perform X in the first case. In other words, freedom of choice is prior to freedom of action (Pugh, 2017: 4).

Some other scholars, such as Persson and Savulescu (2012b), argue that Harris' argument might also be warranted in respect of another sense of freedom: the freedom of will. Harris (2011: 103) himself quotes a section of Book III of Milton's Paradise Lost and he claims that "*these lines have inspired many writers about the human condition and about the precious nature of freedom and in particular free will*". Free will is an ambiguous notion and it has been defined and understood differently. Some accounts of free will hold that freedom is only possible in an undetermined world. According to those approaches the will sits outside the causal order of the universe and individuals are free whenever they make a decision to act and act upon such decision. Other theories of free will are compatibilist and they hold that free will is situated within the causal order. According to those approaches individuals act freely whenever their actions are produced by the right kind of mental-neural mechanism. Most compatibilist accounts of free will maintain that the right kind of

mental-neural mechanisms are those in which agents are reasons-responsive and in which agents' actions are consistent with their character and higher order preferences (Danaher, 2016)[10].

Advocates of the possibility of biomedical moral enhancement, such as DeGrazia, as well as Persson and Savulescu, have taken into consideration both of the two different accounts of free will, the incompatibilism and the compatibilism views, and they have argued that none of them is seriously threatened by the possibility of biomedical moral enhancement. From an incompatibilist view, interventions of biomedical moral enhancement would not threaten individuals' free will because they would be limited by individuals' indeterministic freedom. DeGrazia (2014: 365) claims: "*if freedom involves radical independence from the causal order, then moral biomedical enhancement, as part of the causal order, cannot touch it*".

On the other side, if human free will is compatible with it being fully determined whether or not we shall do what we take to be the good and right, interventions of biomedical moral enhancement will not reduce individuals' freedom but only make them more often determined to do what we take to be the good. In sum, irrespective of whether indeterminism or determinism reigns in the realm of human actions, it seems that interventions of biomedical moral enhancement would not curtail individuals' freedom.

Furthermore, Persson and Savulescu (2012b) have argued that individuals who have free will can hardly be said to lose their freedom only because their sense of justice or altruism gets enhanced. Persson and Savulescu (*ibid*.) illustrate their point through an example. They (*ibid*.: 409) argue that women tend to be more empathetic and less aggressive than men. However, they (*ibid*.) argue, biomedical interventions that would successfully make men more similar to women and thus more empathetic and less aggressive, would not limit men's freedom. The authors argue that morally enhanced individuals will act for the same reasons which motivate individuals who are

[10] The account of reason-responsiveness was developed by John Martin Fisher and Mark Ravizza in their book *Responsibility and Control: A Theory of Moral Responsibility* (1998). According to this account an agent is morally responsible only if he/she is able to recognize and react to reasons.

already morally good. This implies that morally enhanced individuals will not be less free that individuals who are not morally enhanced (*ibid*.).

I think that one should carefully distinguish between moral necessity and natural necessity. The fact that natural necessity does not curtail an individual's freedom, does not necessarily have to imply that moral necessity, i.e. psychological causation, would also not pose a threat to an individual's freedom. However, Harris (2014: 372) argues that the kind of freedom he is talking about has very little to do with the notion of free will: "*all this talk about free will determinism or compatibilism is just smoke and mirrors in the context*". Harris (2011: 103) claims that what he is concerned with is freedom in its existential sense, i.e. individuals' freedom to choose their own path through life. The kind of freedom Harris is concerned with is that which makes human beings autonomous. The kind of freedom Harris is concerned with is not entirely captured by the notion of the freedom to act immorally, or by the notion of the freedom to choose to act immorally nor by the notion of the freedom of will. The freedom Harris is concerned with is of a more fundamental and encompassing kind.

Harris (2016: 79) claims that the kind of freedom he is talking about is "*the freedom that any rational person accepts is inhibited by threats, diminished by the foreclosure of options and enhanced by education and civil liberties*". This freedom enables "*individuals to consider which course of action best fulfils his or her moral preferences and objectives, all things considered*" (*ibid*.: 80). This seems to suggest that an individual's freedom to fall entails more than his freedom of action, choice or will. The freedom to fall refers to a kind of primordial freedom and it is deeply related to the human nature. According to Harris (2011: 103), God, nature or evolution has given human beings a vigorous sense of justice and right and this is why human beings are "*sufficient to have stood though free to fall*". Harris maintains that human beings naturally possess a sense of

morality. At the same time, however, they are free, in the existential sense[11] described by William Gerald Golding[12]. This existential freedom enables individuals to choose their own path through life (Golding, 1959: 5). It is in virtue of possessing this kind of freedom that human beings are not only able to, but also called to, freely choose whether to stand or to fall.

This kind of freedom is of utmost importance because, as Harris (2011: 104) argues, the freedom to fall is a necessary requirement for the exercise of autonomy[13], and for the possibility of virtue. He (2016: 96) defines autonomy as "*the ability to choose freely*" and for the possibility of virtue (Harris, 2011: 104). To be virtuous he (2014: 372) defines as having "*the ability to choose rationally and freely according to principles and practices that are plausible as candidates for moral action*". Harris claims that the possibility of virtue depends on the exercise of the freedom to fall. The freedom to fall is that which enables people to translate their knowledge of the good into doing the good. He (2016: 60) writes:

> *"One thing we can say with confidence is that ethical expertise is not 'being better at being good', rather it is being better at knowing the good and understanding what is likely to conduce to the good. The space between knowing the good and doing the good is a region entirely inhabited by freedom. Knowledge of the good is sufficiency to have stood, but freedom to fall, is all. Without the freedom to fall, good cannot be a choice and freedom disappears and along with virtue. There is no virtue in doing what you must".*

Harris (2014: 372) argues that it is because of their natural condition, i.e. sufficiency to stand and freedom to fall, that human beings are autonomous beings: "*autonomy surely requires not only the possibility of falling but the freedom to choose to fall, and that same autonomy gives us self-*

[11] Not 'freedom from' but 'freedom to'. For more information see Berlin, I. 1969. *Four Essays on Liberty*. Oxford: Oxford University Press.

[12] William Gerald Golding (1911 – 1993) was a writer of fiction, plays and poetry from English descendent, who was awarded the Noble Prize for Literature as well as the Booker Prize for Fiction.

[13] Different thinkers have provided different accounts and definitions of the notion of autonomy. For the sake of the argument developed in this paper the notion of autonomy has to be understood as referring to the authenticity of the desires and motives that move one to act in the first place and thus as one's independence from external manipulation (Christman, 2015). In other words, to be autonomous is to be one's own person, to be directed by considerations, desires, conditions, and characteristics that are not externally imposed, but are part of what can be considered one's authentic self.

sufficiency". In this respect, the notion of the freedom to fall seems to be based on the Kantian notion of freedom, i.e. freedom as autonomy.

In it is virtue of the freedom to fall that human beings have the ability to make decisions and to create themselves: *"decisions, then, are not only world creating; they are self-defining. We are the product of our past decisions; they are in large part responsible for making us what we are, and our history and our future are defined by them. We are the persons we make of ourselves"* (ibid.: 249). This means that freedom, rather than being characterised by randomness or arbitrariness, consists in binding oneself to a law, but a law that is given by oneself in recognition of one's responsibilities. According to Harris (2016: 96): *"autonomy is self-government"* and, as such, it consists in the exercise of power and responsibility. Harris (*ibid*.: 85 – 86) compares individuals' self-government to political forms of government, specifically to democracies. In democracies, the power of people is exercised through representatives, who act and choose on their behalf, in their interests and for their protection. In order to do this, in a democratic state structure, representatives have to make decisions, they have to decide, for instance, whether to intervene or not to intervene, whether to act or to refrain from action. It is only by making decisions that democracies can make a difference to people's lives and to protect people's interests. In the same way that governments are held accountable and responsible for their decisions and their consequences, individuals are held accountable and responsible for their decisions and their effects and outcomes: *"Individuals are responsible for the way in which they govern themselves and for the effects of so doing"* (*ibid.:* 96). The fact that human beings are free to choose and act in accordance with their choices makes them autonomous, i.e. when they stand or fall they do so because they choose to do so. Moreover, the freedom to fall, understood as the possibility to make autonomous and free choices, is what enables human beings to constitute themselves as selves and to make a difference in the world around them.

These abilities in particular, and individual autonomy in general, would have to be curtailed if the freedom to fall were to be limited. Furthermore, the limitation of individuals' freedom to fall

would restrict individuals' sufficiency to have stood, i.e. their ability to explain and justify their choices (*ibid*.: 98).

It is this kind of freedom, Harris argues, that is threatened by behaviour-oriented interventions of biomedical moral enhancement. Is this kind of freedom actually threatened by those interventions? And if this is the case, how and why do those interventions threaten individuals' freedom to fall?

Biomedical Moral Enhancement: A Threat to Individuals' Freedom to Fall

Harris (2014) argues that behaviour-oriented interventions of biomedical moral enhancement might pose a threat to individuals' freedom to fall. These interventions threaten individuals' freedom to fall because they bypass reasoning and directly attempt to manipulate attitudes, dispositions or emotions in order to pre-determine individuals' behaviour. The manipulation of individuals' attitudes subverts an individual's freedom to fall, understood as: "*the freedom to decide whether or not to fall for reasons, which have to do with what is best all things considered*" (*ibid*.: 373). Once individuals would be morally enhanced by innovative biotechnologies, they will be determined, rather than influenced, to act according to specific moral standards and, as a result, they will lose their freedom. Behaviour-oriented interventions of biomedical moral enhancement lead to a situation in which individuals are no longer free to make actual choices. This is because these interventions impede freedom, since they respond directly to attitudes and bypass the ability to differentiate between right and wrong. These interventions "*inhibit individuals from considering which course of action best fulfils their moral preferences and objectives all things considered*" (Harris, 2016: 80) and, as such, "*they are indeed "freedom-subverting*"" (*ibid*.). Climate change, for instance, represents an environmental problem that could most probably be solved if individuals were to decide to take more into consideration the environment and its value while making their individual choices. Given the reticence of most individuals to freely decide to do so, some advocates of the possibility of biomedical moral enhancement, such as Persson and Savulescu,

argue that this could be solved by biomedically enhancing individuals so that they would actually take into consideration the environment and its value while making their individual choices. However, according to Harris (2016), this implies that interventions of biomedical moral enhancement would curtail individuals' freedom because they will bypass reasoning and determine individuals' moral choices and behaviour rather than enhancing them. As Harris (ibid.: 82) argues, anything which, by influencing attitudes and emotional responses "*inhibits individuals' ability to decide whether or not to fall for reasons which have to do with what is best "all things considered" [...] is inimical to freedom*".

Furthermore, since an individual's freedom to fall is deeply related to his autonomy and his status as human being, behaviour-oriented interventions rob an individual of his autonomy and status as human being.

Behaviour-oriented interventions threaten individuals' autonomy, i.e. ability to make decisions and to act upon them because, as has I have argued, the kind of freedom that is at stake has to be understood as an individual's ability to act on coherent and authentic preferences and thus it is deeply related to autonomy. When considering autonomy, what matters is not only the individual having preferences, but also how an individual has acquired the preferences he has. This implies that preferences that are brought about through reason bypassing interventions, such as behaviour-oriented interventions of biomedical moral enhancement, somehow curtail individuals' autonomy (Bublitz, 2016: 94).

Persson and Savulescu object to Harris' claim and maintain that interventions of biomedical moral enhancement would not pose a threat to individuals' freedom to fall. They (2012b: 410) illustrate their criticism with the thought experiment of the God Machine:

> *"The great Moral Project was completed in 2045. This involved construction of the most powerful, self-learning, self-developing bioquantum computer ever constructed called the God Machine. The God Machine would monitor the thoughts, beliefs, desires and intentions of every human being. It*

was capable of modifying these within nanoseconds, without the conscious recognition by any human subjects. The God Machine was designed to give human beings near complete freedom. It only ever intervened in human action to prevent great harm, injustice or other deeply immoral behaviour from occurring. For example, murder of innocent people no longer occurred. As soon as a person formed the intention to murder, and it became inevitable that this person would act to kill, the God machine would intervene. The would-be murderer would change his mind. The God Machine would not intervene in trivial immoral acts, like minor instances of lying or cheating. It was only when a threshold insult to some sentient beings' interests was crossed would the God Machine exercise its almighty power".

Persson and Savulescu (*ibid*.: 411) maintain that the only difference between the existence of laws and the instalment of the God Machine is that while laws prohibit certain behaviours on pain of punishment, the instalment of the God Machine makes it impossible for individuals to act immorally. However, I personally think that this is not exactly the case. Although laws do prohibit individuals to act immorally on pain of punishment, they do not inhibit individuals from acting immorally. In other words, although laws attach specific consequences to specific behaviours, they do not inhibit individuals' freedom. In the case of the God Machine, on the other hand, freedom, understood as the possibility to choose between two or more courses of action, is denied to individuals. Furthermore, as Harris (2016: 108) argues, Persson and Savulescu fail to recognize the distinction, emphasised by Ronald Dworkin (1977: 266 - 267), between liberty and licence. Liberty is a moral and political concept, an idea, an ideal and a value. Liberty is required for autonomy or self-rule, and is deeply related to independence. Licence, on the other hand, refers to the extent to which a person is free from social or legal constraint to do what he wishes to do (*ibid*.).

Persson and Savulescu (2012b: 411) also object to Harris' claim that interventions of moral enhancement would threaten individuals' autonomy: *"human beings can still autonomously choose to be moral, since if they choose the moral action, the God Machine will not intervene. Indeed, they are free to be moral. They are only unfree to do grossly immoral acts, like killing or raping"*. However, I do not think that Persson and Savulescu are right. In order to be free to choose one needs to have more than one possibility. The God Machine leaves individuals only the choice to

stand, or to be moral, and one cannot truly be considered free when one has merely one choice. Individuals are only free to choose as long as they choose what is permitted by the God Machine. However, this is not the same of being free to choose. Consider the following example. Individual X is faced with a choice: he can either decide to have coffee or to have tea. However, if he decides to have coffee, he can actually have coffee, whereas, if he decides to have tea, someone else is going to persuade him that what he actually wants is coffee. Is individual X free to choose between coffee and tea? I do not think he is, at least not more than someone else would be who could choose only one option.

Furthermore, Persson and Savulescu (*ibid*.) claim that *"There is one way in which the God Machine would not compromise autonomy, that is, even if it did prevent people from acting immorally. This would be the case if people voluntarily chose to be connected. Voluntarily connecting to the God Machine would then be an example of a precommitment contract, the paradigm example of which is Ulysses and the Sirens"*.

But according to Harris (2014), there is no real analogy between the story of Ulysses and the God Machine. Ulysses' imprisonment has a brief duration and it is fully voluntary: "*it is like agreeing to be sedated for a surgical operation during which one loses the power to say, 'Stop cutting'"* (*ibid*.: 256). Furthermore, Harris (*ibid*.) argues: *"the proper analogy with the God Machine is selling or giving yourself into slavery, a condition that is open ended and potentially endless. The rule of the God Machine is literally the rule of a slave-owning tyrant, which, as Savulescu and Persson admit, compromise autonomy"*. Now, almost everyone would agree that the freedom to sell oneself into slavery is a prime example of a free act that denies the very liberty it supposedly expresses. The freedom to sell oneself into slavery is incompatible with the very essence of freedom.

To summarise, I have argued that determinate types of moral enhancement, i.e. behaviour-oriented interventions, would actually pose a threat to an individual's freedom to fall, as understood by Harris. However, Harris's critique goes even further. Harris claims that behaviour-oriented

interventions would not only curtail individuals' freedom to fall and their autonomy, but they would also make the very notions of morality and moral agency meaningless. This is because, by making it impossible for human beings to fall, behaviour-oriented interventions would also force human beings to stand. However, if one stands because one has been determined or programmed to do so, rather than because one has freely and autonomously chosen to do so, the very act of standing loses its moral value and meaning: *"sufficiency to stand is worthless, literally morally bankrupt, without freedom to fall"* (Harris, 2011: 110).

Harris (2011) claims that the freedom to fall represents a necessary pre-requisite for morality. According to Harris, a decision to act in a morally right way is morally worthless if one is not free not to make the decision. In the next part of this chapter, I will critically evaluate Harris' claim and assess whether the freedom to fall in fact is a necessary requirement for moral behaviour and thus whether behaviour-oriented interventions would make the very notion of morality meaningless and worthless.

The Freedom to Fall and Morality

I have argued that interventions of biomedical moral enhancement threaten individuals' freedom to fall and their autonomy. At the end of the discussion, however, a deeper question has arisen. This question has to with the relation between the curtailment of individuals' freedom to fall and individuals' ability to engage in moral behaviour. Given that interventions of biomedical moral enhancement would result in the curtailment of an individual's freedom to fall, how would such a curtailment influence individuals' ability to engage in moral behaviour? Can and should someone, who is not free to fall and forced to stand, be said to behave morally?

This problem is clearly illustrated by Michael Hauskeller's (2013) interpretation of the freedom to fall objection. As John Danaher (2016) explains, Hauskeller illustrates the freedom to fall's objection with a story, the story of the Little Alex. The story, which comes from Antony Burgess's

novel A Clockwork Orange, tells about Little Alex, a young man prone to acts of violence. Little Alex is captured by the authorities and forced to undergo a form of aversion therapy. He is given medication that makes him nauseous and then he is repeatedly exposed to violent imagery. The therapy works and when Little Alex leaves captivity he still feels violent urges but these are accompanied by feelings of nausea that distract him. As a result, Little Alex does no longer act out of violence and he achieves moral conformity[14], i.e. he is morally better. Hauskeller, talking through one of the characters of the story, suggests that, although the induced nausea compels Little Alex to do good, Alex's induced goodness is actually not really good at all (Danaher, 2016). According to Hauskeller (2013), the aversion therapy takes away from Alex the choice to do the bad, i.e. to act out of violence, and forces him to do the good, i.e. to refuse to respond to his violent urges. However, Hauskeller (2013: 75) maintains that, it is better, all things considered, to have the freedom to do the bad than to be forced to do the good:

> *"This is what I call the "Little Alex" problem [...] it invites us to share a certain moral intuition (namely that it is in some unspecified way bad or wrong or inhuman to force people into goodness) and thus to accept the ensuing paradox that under certain conditions the bad is better than the good — because it is not only suggested that it is wrong to force people to be good (which is fairly uncontroversial) but also that the resulting goodness is somehow tainted and devaluated by the way it has been produced".*

Is Hauskeller right? Is it true that under certain conditions, namely when acting morally, to be able to commit wrong is actually better than being forced to do good? Is it true that the process leading to an individual's decision to act in a morally good or bad manner, not only influences but actually determines the value of his action? Can a morally good action be considered worthwhile of moral value even if it does not represent the result of an individual free choice?

These questions are important and they need to be addressed. In order to find an answer to the above questions, I am going to consider whether the curtailment of the freedom to fall would impact

[14] Moral conformity occurs when an agent's conduct coincides with moral reasons (Douglas, 2014: 75)

our common understanding of morality and the possibility of moral behaviour. This, however, cannot be done without clarifying what moral agency and moral behaviour refer to.

Moral behaviour, in its broadest terms, refers to a kind of behaviour that is carried out according to one's beliefs, moral values or standards. However, as stated by G. H. von Wright: "[...] *the grounds have not been fixed, there is no settled opinion as to what the grounds are*" (von Wright in Frankena, 1970: 150). This is mainly due to the fact that different scholars embrace different, divergent and rival moral frameworks and theories which are grounded on different interpretations of what the terms morality and moral should refer to and which, as a result, expound different conceptions of what it means to behave morally. A detailed description and discussion of all the existent moral theories and perspectives would be beyond the scope of this thesis.

For the purpose of this thesis I am going to use the phrase moral behaviour to refer to a specific type of behaviour which is characterised by two different features, namely reasoning and responsibility both of which are grounded in the freedom to fall.

Moral Behaviour and Reasoning

Moral behaviour is intentionally rather than accidentally or unconsciously enacted. Moral behaviour occurs as the result of an agent's deliberate and intended choice to act in a determinate manner. Moral behaviour is grounded on moral reasoning, i.e. practical reasoning about what, morally speaking, one ought to do and it occurs when an agent makes moral judgements deliberately on the basis of his knowledge and critical evaluation of the context or situation[15]. When one is faced with moral questions, one tends to pause and to reason not only about what to do but also about what one ought to do. As argued by Sarah Chan and Harris (2011) reasoning represents the one factor that should pull an agent in the direction of morality. They (*ibid*.: 130) argue that:

[15] Moral reasoning should not be confused with reason. I am not claiming that reason is a necessary requirement for moral agency and moral behaviour. I am claiming that moral reasoning, understood as the practical reasoning about what, morally, one ought to do, is a necessary prerequisite for moral agency and moral behaviour.

> *"a moral agent is not just someone who performs actions with moral consequences, she is a person who cares about doing the right thing. Such a person must have a way of deciding whether what her emotions prompt her to do, what strikes her as the right thing to do, really is the right thing to do. She will need to think things through, identify the relevant principles she accepts, the values she holds and the moral objectives she believes are right, and apply them to the present circumstances".*

In order to be able to do all of this, however, such an agent must use moral reasoning. Furthermore, according to Harris (2014: 251), the freedom to fall and individuals' sufficiency to have stood are deeply related: *"the sufficiency to have stood is man's ability to explain and justify his choices in terms that fully account for and explain his actions"*. The ability to reason, deliberate and reflect comes not only from the opportunity but also from the imperative to act and behave on the results of this reasoning, deliberative and reflecting process (Harris, 2016).

By contrast, the idea underlying moral bioenhancement concerns the possibility to making people morally better directly, that is by pharmaceutical or other biomedical manipulation. As Consuelo Louverà (2016) points out, Douglas (2008), for instance, maintains that to act morally, means to bring about the desirable outcome and he has argued that an act should be judged as moral or immoral merely in terms of its outcomes and that the morality of an act should be clearly distinguished from the process that has brought about the action itself. In other words, behaviour-oriented interventions do not necessarily involve moral reflection but only a modification of the behaviour. Behaviour-oriented interventions of biomedical moral enhancement fail to take into consideration the important role that reasoning plays in morality and ethics and to distinguish proper moral enhancement from morally desirable outcomes. Advocates of behaviour-oriented interventions maintain that the direct alteration of individuals' biological, genetic and psychological traits, emotions and dispositions, would make individuals morally better. However, as I have argued, to act in order to bring about the most desirable outcome does not necessarily have to overlap with an improvement of moral abilities. Moral behaviour is more than behaviour that leads to morally desirable outcomes. As Harris (2013a: 288) argues, what distinguish moral behaviour from non-moral behaviour is that the latter "*involve[s], almost always, a combination of evidence*

and argument and where this combination becomes disjoint, they, at the very least, involve judgement". The reason for this is that moral dilemmas present us with a choice. As Harris argues, moral dilemmas present us with: "*a parting of the ways at a junction*" (*ibid*.). Moral reasoning is what enables us to travel one road, i.e. to behave morally, and not another, i.e. to behave immorally, and to arrive at a moral judgement. I personally think that moral enhancement should be understood as an enhancement that leads to better moral decision-making rather than to better outcomes or results.

Some commentators (Harris, 2011; Agar, 2014; Simkulet, 2012) argue that those types of modification of moral behaviour, that do not involve a change in moral reflection, should be considered as forms of behaviour control rather than as actual moral enhancement. I personally agree with the commentators because I think that acting morally as a result of biomedical manipulation is not the same as acting morally as a consequence of thinking ethically. Behaviour-oriented interventions which by-pass individuals' reflection processes consider moral behaviour as a kind of automatic behaviour which, as such, does not necessarily require the active control of the subject. This is because, as Harris (2014) argues, behaviour-oriented interventions make the subject less able to choose rationally and weigh alternatives from a moral perspective. As such, Harris (2014: 372) argues, these interventions *"may produce moral behaviour, in the sense of behaviour that is de facto right or good all things considered, but not behaviour that is informed by moral judgement, which I take to be behaviour best calculated, judged by a moral agent, to have the effect"*. Furthermore, I think it is quite absurd to assert that any intervention performed on a person that results in the person bringing about the desirable outcomes has morally enhanced that person. Consider a case in which an individual, which I am going to refer to as X, is going to kill another individual, which I am going to refer to as Y. A third individual, which I am going to refer to as Z, might intervene by offering individual X a bribe should he refrain from killing individual Y, resulting in the desirable outcome of individual Y remaining alive. Suppose, further, that individual

X takes individual Z up on the offer and honours his agreement. As a result, individual Y remains alive –a good outcome is achieved-. I do not think that it would make sense to say that individual Z has morally enhanced individual X. Now, suppose individual Z could have obtained the same good outcome –saving individual Y's life- by giving person X a drug that made thoughts of saving individual Y's life appealing. Both of these two interventions lead to the same good or desirable outcome but they do not result in the moral enhancement of individual X. If anything, these two interventions make person X a less successful killer (Simkulet, 2016: 715). This is because, rather than improving the subject's moral character or motivation, this intervention by-passes reasoning and circumvent the subject's ability to make decisions for himself. Although these interventions might be acceptable in some cases, such as to prevent someone from harming himself or others. It does not seem that they should fall under the guise of moral enhancement. Not any improvement in moral behaviour represents an instance of moral enhancement. This is because, when morally evaluating something, one should take into account other elements despite the action's outcomes. These other elements are the agent's intentions, reasons, acknowledgement, and embracement of the latter as well as the fact that the agent is accountable and responsible for his actions and their outcomes. As Harris (2016: 36) writes: *"not all behaviour and not even all behaviour that affects moral outcomes is moral behaviour"*. One can accidentally act in the most desirable manner but one cannot accidentally be moral. As Harris (*ibid*.: 35) argues : "Being moral is like being scientific". In the same way in which one cannot accidentally be moral, one cannot accidentally be scientific. The reason for this is that science is a deliberative and disciplined process, i.e. it involves, for instance, formulating and testing hypothesis and looking for disconfirmatory as well as confirmatory evidence. The same logic holds for moral behaviour. Moral behaviour cannot be reduced to behaviour that affects moral outcomes, nor to behaviour that conforms to generally accepted norms of morality. Moral behaviour is more than this. Moral behaviour is the result of a reasoning, deliberative and reflective process (*ibid*.: 35 – 36). With this I do not intend to deny the importance of outcomes or consequences in the evaluation of moral issues. My point is that

outcomes and consequences only represent some of the factors, i.e. they are not a sufficient condition for morality and moral behaviour, that should be taken into consideration when considering morality and evaluating moral behaviour. Those include an agent's ability to identify, decide and act for the best, all things considered (*ibid*.).

Behaviour-oriented interventions merely focus on the achievement of desirable outcomes and, when they do focus on individuals' moral behaviour, they attempt to mechanically enhance it as if it was a mere matter of cause and effect. Behaviour-oriented interventions rule out moral deliberation and decision-making, they bypass the very process of moral agency and thus they attempt to determine or design individuals' behaviour rather than to enhance it. Behaviour-oriented intervention might successfully increase what Douglas (2014: 79) refers to as 'brute conformity', which is exempted from moral deliberation and which works by removing some affective or conative obstacles to moral conformity. However, they will not successfully increase individuals' deliberative conformity, which consists in moral deliberation and involves moral reasoning. The difference between brute and deliberative conformity resides in the fact that the latter works because it enhances individuals' moral knowledge, moral understanding a moral judgement. As such, deliberative conformity, which might be enhanced by means of traditional methods of moral enhancement, such as education and socialisation, might actually enhance individuals' morality; while, brute conformity, which can occur as the result of behaviour-oriented interventions, does not have the potential to morally enhance individuals (*ibid*.). In the same way in which it would be absurd to maintain that moral enhancement could be successfully achieved by making people behave so as to bring about the most desirable outcomes, it is absurd to maintain that moral enhancement could be successfully achieved by improving individuals' conformity to moral behaviour. As Douglas (2014: 80) recognizes: "*the distinction between conformity to morality and acting in a way that has moral worth has been a commonplace since Kant. To say that an action has 'moral worth' is, in standard philosophical usage, to say that it reflects well, morally, on the*

agent – that the agent merits moral praise for having done that act". The reason for this is that both types of interventions fail to enhance individuals' motivation.

Moral Behaviour and Moral Responsibility

Moral behaviour is based on reason and, as such, it involves responsibility. To behave morally, implies "*to take or to accept responsibility*" which "*means to be able to be held accountable for whatever decisions are taken, on the basis on the assumption that reasons can be provided, that they have been thought through, and even thought they might be fallible"* (Van Niekerk & Nortjee', 2013: 28). The fact that moral behaviour necessarily implies responsibility is quite straightforward. Moral responsibility stems from an individual's ability to reason and that very much depends on freedom *"our responsibility stems from our will, from the fact that we did these things on purpose"* (Harris, 2016: 95). It is because we are free that we are able to choose and, at the same time, responsible for the choices we make as well as for the consequences of our choices. A moral agent is assumed to be responsible for his choices and actions as far as his choices and actions are the result of his free will. By contrast, if a moral agent takes a decision or performs an action because he is forced to, he is generally not taken to be responsible for the consequences of the decision taken or the action performed: *"responsibility is predicted 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"* (*ibid*.).

Moral responsibility is deeply related to a specific kind of freedom, namely the freedom to fall as well as the freedom to reason and deliberate. Moral responsibility depends on the freedom to fall because it is only by virtue of having the freedom to fall that an individual could be held responsible for his decisions and action. If one is forced to make a decision or to act in a determinate manner, then he is not assumed to be responsible for his decision or his action. As John Martin Fisher (2006: 22 – 24) argues, moral responsibility necessarily requires control, i.e. to initiate or be the source of own one's behaviour. An agent who is manipulated to choose and to act

in a determinate way, does not have control, i.e. he is not free to fall, and thus he is not morally responsible for his actual choices and behaviour. He is not free, even if he would have freely chosen to behave in the same manner were he not manipulated or forced to act in the predetermined way. Furthermore, moral responsibility is deeply related to the human ability to reason and deliberate. In is it in virtue of their freedom and their ability to reason that human beings have the ability to choose. However, to have a choice is to bear responsibility for that choice and its consequences: *"We are creatures who are aware of the fact that this is what we are doing. With this power comes responsibility, and with the ability to reason and reflect comes the opportunity and the imperative to action the results of that reasoning and reflective process"* (Harris, 2016: 32). It is because human beings are free to fall and have the abilities to reason and distinguish between good and bad that they are responsible for the outcomes of their actions, and to act in a morally justifiable manner.

Harris (*ibid.*) maintains that it is by virtue of their being free and reasonable creatures that human beings are capable of acting morally: *"We stand out as the only creatures so far identified who have any sense at all of decency and goodness, in short who have a morality properly so called"*.

Persson and Savulescu (2012a) criticize Harris's objection and maintain that the freedom to fall is not necessary for moral responsibility. They (*ibid.*: 114) illustrate their objection with an example:

> *"Imagine that you decide to do the morally right thing on the basis of considering reasons for and against, as somebody who is morally responsible is supposed to. Imagine, however, that there is a freaky mechanism in your brain which would have kicked in if you had been in the process of making not this decision, but a decision to do something which is morally wrong […] Hence you are not free to fall […] Would the presence of this freaky mechanism mean that you are not praiseworthy for making the right decision? It is hard to see why it would: after all the mechanism was never called into operation; it remained idle. In fact you decided to do the morally right thing for precisely the*

same reasons as someone whose brain does not feature the freaky mechanism could do, and whose praiseworthiness is therefore not in doubt".

Person and Savulescu (*ibid*.) argue that the example shows that freedom of will or action is not indispensable for moral responsibility and thus that Harris freedom to fall is not essential for moral choice and action. However, the issue is not praiseworthiness, but liberty, i.e. the freedom to fall. Furthermore, as Harris (2014) points out, Persson and Savulesu's example shows, at most, that the freedom to fall is not essential for choice, it does not show, in any case, that the freedom to fall is not essential for moral choice and action. The reason for this is that since moral responsibility is *"the responsibility for the actions, the doings, and the effects that are part of our moral decision-making process"* (*ibid*.: 249), once the decision-making part of the process is taken out of the equation, there remains nothing for the agent to be responsible for. Decisions to no effect are pointless from a moral perspective (*ibid*.). Moreover, Harris maintains that the freaky mechanism would undermine agency itself, rather than merely preventing agents from making bad decisions.

Persson and Savulescu (2012a) also illustrate their point with the previously discussed example of the God Machine. Recall that the God Machine is an omniscient machine that has access to people's minds and that intervenes when individuals are about to perform an immoral action by changing their minds so that they do not perform it. According to Persson and Savulescu (*ibid*.), the God Machine would not affect the moral responsibility of those agents who never chose to perform immoral actions. They maintain that, since the God Machine would only intervene if they choose to perform an immoral action, human beings will still be able to autonomously choose to be moral.

However, Harris (2014: 249) convincingly argues that the God Machine would in fact undermine the moral responsibility of agents who never chose to perform immoral actions. As I have already explained, the notion of the freedom to fall includes both the freedom of action and the freedom of choice. As a result, Harris (*ibid*.) does not understand moral responsibility only as the freedom to make choices. The fact that an individual is free to make choices is perhaps a necessary,

but not a sufficient condition for moral responsibility. As Pugh (2017: 5) points out, in order to be morally responsible, *"those choices must be able to result in action that actually makes a difference to external states of affairs"*.

This seems to suggest that to threaten or curtail individuals' freedom to fall also implies to threaten or curtail individuals' moral responsibility. This in turn, suggests that, behaviour-oriented interventions undermine the possibility of moral behaviour. I have argued that behaviour-oriented interventions threaten individuals' freedom to fall, as well as the two elements that characterise moral behaviour, namely reason and responsibility. As a result, behaviour-oriented interventions do, in fact, threaten individuals' ability to behave morally. If an individual cannot exercise his freedom to fall, his actions and choices cannot be considered the result of free and autonomous decisions, nor can he be held responsible for his behaviour. However, a choice or an act that is not based on reasons and for which one cannot be held responsible, cannot be considered to have any moral value: *"The way human beings make moral decisions requires the interaction of a complex network of emotional, cognitive and motivational processes that cannot be reduced just to moral emotions or technological control but also to practical reasoning"* (Hughes, 2015: 87).

This does not necessarily imply that human beings should not seek moral development. In fact, there are many very attractive forms of moral development available, that are more effective than behaviour-oriented interventions of moral enhancement and do not pose any threat to individuals' freedom to fall, i.e. they will improve human beings' ethical expertise without threatening their freedom. Education, for instance, increases people's knowledge of the good and of how to achieve it, but it leaves individuals' freedom intact: it respects their liberty to explore the space between knowing the good and doing the good. This is very important because, as Harris (2016: 60) argues, to be better at knowing the good does not necessarily implies being better at doing the good. It is possible to achieve moral enhancement by means of interventions that attempt to alter individuals' behaviour by improving their moral capacities. Improving cognitive capacities, for instance,

represents a valid way of achieving adequate moral enhancement. Consider, for example, the case of individuals that hold racist beliefs or paedophilic desires. Harris (2016) states that, to hold racist beliefs is to hold false beliefs. As a result, racism cannot be resolved by interventions of biomedical moral enhancement. Beliefs, irrespective of truth or falseness, have cognitive content, and therefore they need to be adjusted through cognitive measures. As Harris writes: *"the neutralization of the worst effects of racist beliefs is enhanced by cognitive enhancement"* (*ibid*.: 62). Harris maintains that this is clearly shown by the fact that, in the last hundred years, racism has been dramatically reduced by traditional and cognitive methods of moral enhancement such as education, public disapproval and knowledge acquisition (*ibid*.).

Critique

Harris' argument has given rise to several objections. The most interesting and persuasive one is that it is not clear that the freedom to fall is sufficiently valuable for Harris' purposes. In most cases, human beings have strong moral reasons to prevent their fellow beings from carrying out selfish and extremely violent act. Overall it would not be a great loss to take away individuals' freedom to carry out such acts (DeGrazia, 2014: 365; Persson and Savulescu, 2012a; Douglas, 2013; Bublitz, 2016). However, it is important to distinguish between individuals' freedom to immorality and individuals' ability to act morally. Harris' is critical of behaviour-oriented interventions because they limit and undermine individuals' ability to act morally and not only because they undermine individuals' freedom to immorality. Traditional methods of moral enhancement, such as education, also limit individuals' freedom to immorality. However, in doing so, they do not also pose a threat to individuals' ability to act morally. This is because, traditional methods of moral enhancement are not based on the bypassing of moral reasoning, judgement and deliberation.

Harris (2014: 257) maintains that the value of liberty should take precedence despite these concerns. This is because, as I argued in the above, the freedom to fall is a necessary prerequisite

for moral agency. In addition, exercising the freedom to fall in what enables individuals to take decisions and to constitute themselves as selves, as individuals, as human beings.

Closing Remarks

Not many people doubt that there is much room for human beings' to morally improve. In the previous chapters I have therefore discussed the acceptability of behaviour-oriented interventions as ways to biomedically enhance human morality.

The aim of this chapter was to find an answer to the following questions: Will morally bio-enhanced individuals be morally better because they have been programmed or determined to be so? And, if this is the case, how can a true moral disposition, which seemingly inevitably involves the agent's freedom to choose, be reconciled with the social determinism that seems to inevitably follow from interventions of biomedical moral enhancement? Can true freedom survive a practice where people may make choices that ensure less suffering (for humans, animals and plants) on earth, but have or remain with little choice in the matter? Is human freedom not fundamentally compromised by any effort to pre-determine the choices that people can make? In short, what happens to the nature and practice of morality in a situation where moral choice – which seemingly inevitably involves the possibility of making "wrong" choices (i.e. choices that may continue to have negative effects on the issues mentioned earlier) – is either terminated or significantly curtailed?

I have argued that behaviour-oriented interventions could make people behave in ways that will most probably be more beneficial to others and to the planet. However, if we would opt for such interventions in our moral make-up, we would curtail individuals' freedom, undermine the very essence of morality and diminish our moral agency. Enhanced people will perform some pre-determined set of actions, and acting in such a way would not indicate any particular

praiseworthiness on the part of people carrying them out. The moral capacities of 'enhanced' people will in fact not be enhanced at all, i.e. there will not be any improvement in morality.

Furthermore, advocates of behaviour-oriented interventions maintain that the enhancement of some pro-social or allegedly morally desirable traits and emotions will lead to moral enhancement. However, as I have argued, these interventions might, at best, increase the probability that individuals act in ways that bring about morally desirable outcomes, but will not morally enhance individuals: *"Moral enhancement does not make nor even attempt to make people better; it may if it is lucky make people more likely to avoid aggressive behaviour but luck might just as easily go the wrong way as far as morality properly so called, is concerned"* (Harris, 2016: 78).

Moral enhancement should not be reduced to policies of harm reduction. A decrease in behaviour that causes harm to others or to the planet may look, at first sight, as though it makes the world a better place. However, it is very unlikely to change people's moral outlook or judgement, *"although what happens certainly changes what people are able to do, or more modestly, what people are likely to do"* (*ibid*.: 83). Moral enhancement should involve enhancing individuals' ability to think ethically, not manipulating the probability of some people reacting in ways that are generally accepted as ethical (*ibid*.: 82 - 85).

At this point a question might arise. If the outcome is the same, why is the one (thinking ethically, being able to judge and choose the right thing to do) preferred over the other (acting as to bring about the most morally desirable outcome) ? The reason for this is that, while thinking ethically, being able to judge and choose the right thing to do, are conductive to moral behaviour, the mere fact of acting as to bring about the most morally desirable outcome – when separated from the reasonable, autonomous, free and responsible process of thinking, judging and choosing that characterises moral thinking and moral performance – does not have any moral value.

I do recognize that behaviour-oriented interventions might lead to individuals acting so as to bring about the most morally desirable outcome more often than other traditional methods of enhancement, such as education, which attempt to indirectly influence individuals' behaviour. Furthermore, I do recognize that we are currently facing issues, such as global poverty and environmental catastrophes, that urgently require to be addressed. However, when talking about morality, outcomes and results are not all that counts. When considering and evaluating the value of a moral choice or act, one cannot only take into consideration the effects that such choice or act implies. Individuals' freedom, including their very freedom to fall, and thus their ability to deliberately choose to act immorally, is an important pre-requisite for moral agency. The reason for this, is that, irrespectively of its outcome, a choice, a decision or a behaviour can only be defined as morally valuable if they are the result of individuals' free choice. In conclusion, although enhancements that leave intact individuals' freedom to fall might lead to individuals act so as to bring about the most morally desirable outcomes less often than behaviour-oriented interventions, they should be preferred because they make morality possible.

Conclusion

Human enhancement is, as old as human civilisation. Individuals have been trying to overcome their limitations, to improve and enhance themselves, their life style and their environment since the beginning of human history. This effort for improvement has led to the successful improvement of several of human beings' physical, mental, emotional and moral capabilities.

Recent scientific developments in areas such as biotechnology and biomedicine have led to a revolution in the field of biomedical enhancement and to the emergence of innovative and revolutionary possibilities of human enhancement. Biomedical scientists have been able to discover ways in which human beings could not only be enhanced in terms of their physiological make up, but also with regard to their moral convictions and inclinations. Several advocates of this new possibility, referred to as biomedical moral enhancement (or moral bio-enhancement), have maintained that biomedical moral enhancement could alter the current generally irresponsible and self-centred practices of people throughout the world today, create a sustainable future for forthcoming generations and the planet and make people morally better. Some supporters, such as Ingmar Persson and Julian Savulescu, have even argued that moral bioenhancement represents an urgent necessity and the only hope that human beings have if they wish to avoid major catastrophes, including the destruction of the planet and of their own species.

However, biomedical moral enhancement, at the same time, tinkers with the very essence of human beings. Those innovative practices raise important issues of liberty and responsibility and pose serious questions that need to be critically considered and evaluated before one accepts the case for interventions of biomedical moral enhancement. I decided to focus my attention and my study on the one problem that I think is one of the most important ones. This is the relation between interventions of biomedical moral enhancement, individuals' freedom and morality. More specifically, my study was driven by two questions: 1. Would interventions of moral enhancement

curtail or inhibit individuals' freedom? 2. If they would, what will such a curtailment imply for the practice of morality?

In the first part of the thesis I have analysed the notion of biomedical moral enhancement and I have looked at some of the conceptual and theoretical problems surrounding the practice – such as the problem of the identification of the possible criteria for the evaluation of those interventions – as well as some of the arguments that have been developed in support of interventions of moral bio-enhancement. Then, using Harris' objection as a starting point for my study, I have explored whether interventions of moral enhancement might actually lead to the curtailment of individuals' freedom. I have argued that a specific type of intervention, namely behaviour-oriented interventions, do pose a threat to individuals' freedom to fall, i.e. to deliberately, autonomously, reasonably, responsibly and freely choose to act immorally. I have defined moral behaviour as a type of behaviour that results from an individual's free, deliberative, autonomous, reasonable and responsible decision to act in a specific way and I have argued that those behaviour-oriented interventions do not only curtail individuals' freedom to fall but also bypass and inhibit individuals' reasoning and responsibility. In the light of this, I have concluded that, although those types of intervention might successfully lead individuals to act so as to bring about the most morally desirable outcome, they would fail to make people morally better, i.e. to morally enhance them, and that they would actually make moral practice worthless and meaningless, i.e. they would severely affect individuals' ability to engage in proper moral behaviour and reduce morality to moral compulsion or moral conformity.

The reason for this is that, as I have argued, any behaviour that does not occur as the result of an individual's free, autonomous reasonable and responsible choice, irrespectively of its consequences, cannot be considered to have any moral value.

It is important to note that the major problem is not that behaviour-oriented interventions reduce individuals' choices by making it impossible for them to behave immorally. The problem is rather

that in order to be able to behave morally, one necessarily needs to be able to choose to behave immorally. The possibility of moral behaviour requires the possibility of choosing whether to act morally or not. If a person does not choose how to behave, i.e. acts out of compulsion or conformity, and thus does not freely choose how to behave, the person does not engage in moral behaviour, i.e. his behaviour and his choices are not grounded in freedom, autonomy, reasonability or responsibility and, as such, they cannot have any moral value.

Advocates of behaviour-oriented interventions maintain that moral enhancement could be achieved by making people behave so as to bring about the most desirable outcomes. However, consequences are not all that count. To behave morally involves more than behaving in order to bring about the most desirable outcome. To behave morally also, and most importantly, involves the ability to act for the best, all things considered. Behaviour-oriented interventions bypass reasoning and the ability to consider all the relevant things. As such, they might increase the possibility that individuals would act in order to bring about the most desirable outcomes, but not that they will behave for the best all things considered; i.e. behave morally.

This does not have to imply that human beings should not seek moral improvement. Human individuals are far from morally perfect. However, as I have argued, other types of enhancement, (such as cognitive enhancement) are as yet available that could and would make people morally better without curtailing their freedom to fall or inhibiting their ability to behave morally. By contrast to advocates of behaviour-oriented interventions of moral enhancement, I do not think that more traditional methods of moral enhancement would be less effective than more innovative ones. However, I do think that they should be supported by governments and social policies and institutions. The reason for this that governments, institutions and infrastructures could better address some of the moral issues that we are currently facing, such as global poverty and inequality as well as environmental catastrophes, then relying on individuals' efforts to act for the best, all things considered. As Harris (2016: 156) argues:

"Health, welfare and national defence are unlikely to be effectively deliverable in modern societies by individual actions and private initiatives. So that levels of altruism that are beyond the power of individuals may be effectively deliverable by governments or other social institutions. No individual can usually hope to 'feed the poor', defend the weak or 'heal the sick', but good social welfare and health services and infrastructures (whether publicly or privately funded) can and do, so far as this is possible at all".

Advocates of behaviour-oriented interventions, such as Persson and Savulescu, as well as Douglas, maintain that most of the challenging issues that we are currently facing are the result of individuals' moral deficiencies and tendencies to neglect their moral obligations and responsibility and that individuals' moral bioenhancement represents the only hope to address and cope with those issues. I do believe that individuals' moral deficiencies and their tendency to neglect their moral obligations and responsibilities in fact pose serious problems. However, I do not think that individuals' moral enhancement, by itself, represents the most appropriate solution to the issues that we are currently facing. I think that individuals' obligations and responsibilities would more effectively delivered by collective rather than individual action.

Secondly, but not less importantly, advocates of behaviour-oriented interventions maintain that, in order to make people morally better, we should enhance some traits and dispositions that are pro-social, such as altruism, and inhibit or eliminate some others, such as violence and aggressiveness. This idea is based on two assumptions. The first is that attitudes and traits can be divided into two categories: those which lead to moral and social behaviour, and those who lead to immoral and anti-social behaviour. The second assumption is that to be pro-social, means to be moral. However, as Peter Strawson (1960) argues, in some cases, the sort of traits and dispositions that seem to lead to immorality, i.e. violence, aggressiveness, are also the very same required for virtue and morality. In other words, certain strong emotions, including aversions, are an essential and even desirable part of valuable emotions, motives or attitudes to others. Consider the following example. To feel a strong aversion to someone who deliberately and unjustifiably killed and tortured those whom we love, does not represent an obstacle to moral behaviour or a moral deficiency. In addition, the

enhancement of the so called pro-social attitudes and emotions would most probably fail to lead to individuals' moral enhancement if not complemented with individuals' ability to reason, deliberate and reflect. The reason for this is that, although it might be possible to identify traits, attitudes and emotions that are more conducive to moral behaviour than others (such as altruism and empathy), moral reasoning would nevertheless play a central role. Moral reasoning is, in fact, needed in order to identify the appropriate objects for those attitudes, dispositions and emotions that are generally assumed to be more conducive to moral behaviour than others. Moral reasoning plays a central role because it enables individuals to guide their emotions and to check that they have the appropriate feelings in the appropriate circumstances for the appropriate objects.

Furthermore, human history is full of instances in which the upholding of what was regarded as moral behaviour, has, in the end, led to immoral actions. Consider, for instance, slavery, racism or the exclusion of women from most areas of public and political life. In order to avoid the possibility of repeating the same mistakes, we should refrain from interventions that bypass individuals' ability to reason, reflect and, most importantly revise and review positions. The reason for this is that, although as human beings, we are fallible, our ability to reason, reflect and revise our ideas and positions, enable us to see and correct our mistakes.

In conclusion, I think that behaviour-oriented interventions would not only fail to make people morally better, but also make moral agency impossible. The freedom to fall is what makes us able to behave morally and what distinguishes us from other beings. Although the curtailment of such freedom might lead to a more favourable climate for the environment and other people, I really do not think that the benefits of such interventions would out-weigh their costs. We will lose a part of us, we will lose what makes us what we are. The potential threat posed by behaviour-oriented interventions goes far beyond the curtailment of individuals' freedom to fall and their ability to behave morally. Behaviour-oriented interventions would affect our sense of who and what we are

and of the extent to which we are, or can remain, masters of our fate - entities which create ourselves by our decisions and actions.

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