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Enhancing Autonomy, Authenticity and Selecting the Child with the Best Moral Life

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Abstract: *In the human enhancement literature, there is a recurrent fear that biomedical technologies will negatively impact the autonomy and authenticity of moral agents, even when the agents would end up having better capacities and an improved life with the aid of these technologies. I will explore several ways in which biomedical enhancement may improve the autonomy of moral agents and try to show that biomedical methods are, all things considered, beneficial to our autonomy and authenticity. I will argue that there are instances when it's desirable to limit the autonomy of moral agents and that strict regulations are to be put in place if a great number of people will have easy access to powerful, genetic-altering technologies which can impact the life of future children. I will advocate for using assisted reproductive technologies in order to select the child with the best chance of the best moral life and in doing so I will analyse several procreative principles which have been proposed by different scholars in the genetic enhancement debate and try to determine which one would be best to adhere to. Usually, people place high value on the concept of autonomy and there are many cases in which they end up overestimating autonomy in relation to other moral values. While autonomy is important, it's also important to know how to limit it when reasonable societal norms require it. Sometimes autonomy is defined in strong connection with the concept of authenticity, in the sense that it's not sufficient for our choices to be autonomous if they are not also authentic. I will try to defend the idea that authenticity can be enhanced as well with the aid of enhancement technologies which can actually prove beneficial in our quest to improve our own self.*

Keywords: *moral enhancement, autonomy, authenticity, assisted reproduction, Procreative Beneficence, Procreative Altruism, pharmaceuticals, Prozac, Modafinil, the right to an open future, disabilities, genetic manipulation, cognitive enhancement.*

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1. Introduction

In the last decades there have been important developments in the field of enhancement technologies capable of improving our mental capacities, dispositions, motivations, physical aspect and human behavior in general. While such technologies have immense benefits and can help us improve our life substantially, there are many concerns regarding the fact that they can have a severe impact on our autonomy, which is one of the core values of human life. While autonomy is definitely one of our main values, it shouldn't be considered as being important in an absolute sense, that is, by eclipsing all the other values which are also important for a fulfilled life. While the objections regarding the threat posed by biotechnologies to autonomy shouldn't be taken lightly, many of them seem to be simple red herrings and too vague to apply to the biotechnologies which are at our disposal today. Moreover, there seems to be strong evidence which shows that our autonomy can be enhanced rather than impaired by the use of biomedical methods. In this paper I will try to show that the current scientific evidence supports the idea that autonomy can be enhanced using certain biomedical methods and that we should use any chance we have in order to promote these technologies and make them available on a large scale if we want to live in a better society.

One of the ways in which our autonomy can be enhanced is by improving our mental capacities altogether. Our reason is an important part of our autonomy and it is unlikely that a person who can't reason properly can be considered as being an autonomous person under any reasonable conception of autonomy. Therefore, by improving our reasoning process *via* biomedical means we should be able to improve and make better use of our autonomy (which we sometimes might be inclined to abuse due to our flawed cognitive processes). I will try to determine whether this is indeed the case by exploring several ways in which our autonomy can be enhanced *via* various biotechnologies. In doing this, I will argue that we can combine enhancement technologies with environmental engineering in order to better promote autonomy and fulfill one's potential.

Also, we are today in possession of powerful assisted reproductive technologies (ART) which can help couples select the sex and the traits of their future children, which means that in this way their reproductive autonomy can be enhanced and they can better put their conception of a happy and fulfilled life into practice. Bioconservatives usually argue against the use of such technologies claiming that it might threaten our autonomy

and the access of the child (who is the subject of the selection) to an open future. Here, I will try to refute the arguments of bioconservatives and show that we actually have strong reasons to promote and use such assisted reproductive technologies on a large scale. An important aspect to be emphasized is the fact that these technologies can give us, paradoxically, too much autonomy and we should be aware of not abusing this autonomy. While autonomy is a chief human value, it is not an absolute value and there are instances in which autonomy should be limited, rather than enhanced, in order to promote the interests of the future child. Such an instance is the selection of children with disabilities by parents with a twisted conception of how the designed child should be like. I will consider several principles used in biomedical ethics which can help us better determine the amount of autonomy parents should have when selecting their future children. Even if this is a controversial topic, I strongly believe that some kind of agreement can be reached regarding the use of assisted reproductive technologies.

Autonomy is sometimes defined in terms of authenticity, in the sense that one cannot really be considered autonomous if one's choices and desires are not truly authentic. But defining this concept has been a real challenge and is considered by many too vague of a concept to be used in a discussion about autonomy. However, even with this vagueness in mind there are reasons to believe than biotechnologies can enhance authenticity alongside with autonomy, and in the following pages I will try to offer some arguments for this case as well.

2. Enhancing autonomy with the aid of Pharmaceuticals and Environmental Engineering

Autonomy is a wide concept which has become in time one of the core human values without which life would lose most of its value because, presumably, no one would want to live a life without having at least some level of autonomy. Some philosophers consider it to be the most important human value, with the power to override all other values. It is considered one of the four fundamental principles in the influential book *Principles of Biomedical Ethics*, alongside with beneficence, non-maleficence and justice (Beauchamp & Childress, 2001), sometimes referred to as being the *first among equals* (Gillon, 2003) and the way we define autonomy is of utmost importance for the most important questions in contemporary bioethics. It is for this reason, probably, that many bioconservatives are arguing against enhancement technologies on the basis that they might impair or limit our autonomy. However, there is strong evidence which shows that these

technologies can actually better promote our autonomy and authenticity if used in a proper manner. But what do we understand by autonomy anyway? Historically, autonomy comes from the Greek *autos* (self) and *nomos* (rule of law), which literally means self-government (Dworkin, 1988, p. 12). Its original meaning referred to politics: *a right assumed by states to administer their own affairs* (Darwall, 2006, p. 263) and only later it started *to refer also to the conduct of individuals* (Darwall, 2006, p. 263). The general meaning of the concept today is that *to be autonomous is to govern oneself; and to live autonomously is to live in accordance with one's basic desires or values* (Juth, 2011, p. 36).

There are several theories of autonomy which are quite distinct and make the struggle to give a universal definition to this concept difficult, but this doesn't mean that the task itself should be seen as impossible. For Immanuel Kant (1996), for example, autonomy is an aspect of the will defined in terms of rationality and acting in accordance with the Categorical Imperative which leaves no room for desires (O'Neill, 2009). John Stuart Mill, on the other hand, considered autonomy *one of the elements of well-being* (Mill, 2003, p. 121), therefore to be defined by our desires and values, which suggested that rationality was not the single force behind autonomy. He wrote that: *The only part of the conduct of anyone for which he is amenable to society is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign.* (Mill, 2003, pp. 80-81). Expanding on this idea, Harry Frankfurt developed a so-called hierarchical conception of autonomy (although he never uses the term *per se*, referring to it as freedom). According to Frankfurt, thus, we have first-order as well as second-order desires which we struggle to accommodate and which can make us more or less autonomous agents. First-order desires refer to basic desires, *which are simply desires to do or not to do one thing or another* (Frankfurt, 1971, p. 7) such as to eat, drink, sleep, etc., while second-order desires refer to higher desires, such as *the capacity for reflective self-evaluation* (Frankfurt, 1971, p. 7) or desires to have certain desires. More recently, contemporary bioethicists define autonomy in terms of understanding, intentionality and absence of controlling influences (Beauchamp & Childress, 2009), or as competence and individuality (Bernofsky, 1995). These are just a few examples which show how entangled and sophisticated can be to try to define such a concept, and most likely the attempt to do so will inevitably disappoint someone who might think of autonomy in other terms. But if we are to argue for the idea that autonomy can indeed be enhanced using biotechnologies, then we must find a common element of all these distinct theories that can unite them up to a certain point and make plausible the idea that autonomy can be enhanced.

So, what is that element which can be considered to define all these theories, in spite of the various elements which differentiate them?

In an article from 2014, Schaefer and colleagues argue persuasively that there's a certain element which all these theories have in common, and that is the idea that autonomy is crucially related to people's *reasoning, deliberative and evaluative capacities* (Schaefer et al., 2014, p. 126). This idea (which seems to have Kantian roots) suggests that by improving our reasoning and cognitive capacities, we can actually enhance autonomy no matter to which theory of autonomy we might choose to adhere, because the capacity for reasoning is important in all plausible theories of autonomy. Schaefer et al. (2014, p. 126) give several examples: *deductive/logical competence, comprehension (including the avoidance of false beliefs), and critical analysis*. This means that we could, for example, use nootropics in order to improve our intelligence, memory, creativity and so on, which would be an important help in our endeavor to become more autonomous. We could use, for instance, Modafinil in order to improve our working memory and help us better at achieving some specific tasks. For example, it could help architects and graphic designers with better achieving their goals (Juth, 2011, p. 36). Also, we could take Prozac in order to better improve our mood and feel less depressed, which means that we could feel more motivated to act in accordance with our reason (DeGrazia, 2000). Another example is the reduction of impulsivity using Methylphenidate (also known as Ritalin), by controlling those impulses which might override our conscious self (Pugh, 2014) and the list might go on. According to Singh and Kelleher (2010, p. 8), patients suffering from ADHD who take Ritalin *tend to feel that they have increased agency . . . in forging their life trajectories*.

There are many drugs which can presumably affect out mental capacities for the better and therefore improve our autonomy. Of course, improving our cognitive faculties doesn't always lead to an improvement of our autonomy, because there's not a necessary cause/effect relation between the two. It could lead us, for example, to an endless debate about the right course of action and even to more indecision. But we must understand the fact that when we talk about the impact of drugs on our behavior we are not talking about chemical determinism, nor about an improved behavior in all possible circumstances of life. We are simply talking about substances which might make it more likely to behave moral in more situations, and not at all about something that might determine us to behave in a certain manner in all situations.

The boost of our mental capacities isn't the only variable in the equation of enhancing our autonomy. We have many psychological biases

which impede us from acting in a proper manner in specific situations and pharmaceuticals might prove beneficial yet limited in this endeavor. For example, as N. Levy shows, people are subjected to a phenomenon called *hedonic adaptation*: *the way in which we tend to revert to our former level of happiness fairly quickly after major life events. People systematically overestimate the effect that life events will have on their happiness because they fail to take this phenomenon into account* (Levy, 2012, p. 593). This means that we have a distorted view regarding how certain important life events impact our lives, which might lead us to act on some false beliefs. In fact, studies show that we are terrible at assessing the impact that certain events which we perceive to be bad might have on our well-being. A study from 2008, in which normal controls and Locked-in-syndrome (LIS) sufferers were given the task to note the levels of their well-being from -5 to +5, revealed that the average was the same among the 2 groups: the well-being rate was at around 2 for both groups (Bruno et al., 2008).

Another example which shows that people are not well-suited to judge what might be good for them in certain situations is the case of *hyperbolic discounting*, which is *to think that the opportunity to secure future access to a good is worth less than the opportunity to have immediate access to the same good* (Levy, 2012, p. 595). This means that we are inclined, in many everyday situations, to behave in a hazardous manner that promises to procure us some immediate pleasure and disregard the long-term effects of certain actions. This explains many irrational choices people make in their everyday lives, from smoking to gambling and eating unhealthy food. As Levy puts it: *People who overeat—and that is, to a first approximation, all of us—generally value health more than they value cheeseburgers, but they find their preferences temporarily shifting when the opportunity for consumption presents itself. Predictably, they come to regret their actions, and the cycle begins again* (Levy, 2012, pp. 595-596).

Last but not least, people in general are pretty bad when it comes to evaluating their own skills and competencies. We are victims to so-called *positive illusions*, meaning *beliefs that we are more competent in key areas than we actually are (the more we value a skill, the higher the likelihood that we will attribute it to ourselves)* (Levy, 2012, p. 596). Even if these positive illusions are not bad in all cases and might prove beneficial in certain contexts, they have a negative impact in many aspects of our lives, rendering us incapable of acting for the right reasons. The examples are abundant: *80% of drivers judge themselves to be in the top 30%; most students judge themselves to be more popular than average; a full 94% of university professors believe they are better-than-average at their jobs* (Levy, 2012, p. 596). Ironically, those of us who are better at self-evaluation are actually the depressed individuals (depressed realists) (Alloy & Abramson, 1979).

These cognitive limitations interfere heavily with our ability to act in an autonomous manner, even when there's no coercion from an external force. So, the simple fact that we have these limitations seems to hinder our autonomy and keep us away from realizing our full potential in this matter. How can we diminish the negative impact of such biases on our behavior? Neil Levy thinks that we can solve this issue with the aid of environmental engineering: *We ought to implement social policies which shape our environments so that our cognitive weaknesses are dampened and our strengths enhanced* (Levy, 2012, p. 598). He goes on to propose several policies, such as *limiting their opportunities for consumption; that is by ensuring that opportunities for immediate consumption of tempting goods but which, all things considered, they prefer not to consume, are less frequent* (Levy, 2012, p. 598). These goods are mostly food with high amounts of calories, drugs, alcohol etc. He concedes that hard regulation is not permissible as it doesn't sufficiently respect our autonomy, but he thinks that softer regulations might do the trick: restricting the hours for alcohol, cigarettes etc. sale *by reducing the likelihood that they will encounter temptations in too rapid a succession. Laws that govern the placement and content of advertising, and laws governing the density and number of outlets selling tempting goods—alcohol, fast food, or what have you—can, if well designed, allow agents to manage their cognitive resources better* (Levy, 2012, p. 599). These regulations might indeed improve the lives of people in large societies by making them less prone to make choices on the spot which later prove to be detrimental to their health and well-being. But it's unrealistic to think that these methods are by themselves sufficient to solve problems like obesity and alcoholism. It's unrealistic to think that alcoholism can be solved by reducing the opening hours of a bottle store from 9-14 instead of 9-17. It might indeed help in some instances, but it would be very limited as it wouldn't address the core of the problem. Pharmaceutical drugs go straight to the heart of the matter and could prove to be a lot more beneficial because they would intervene at the biological level: they might make the alcoholic or obese person, for instance, feel nausea when consuming high-fat foods or alcohol.

In his article, Levy takes these 2 methods: pharmaceutical drugs and environmental engineering and puts them in opposition when there is no need to do so. Why should we consider the two as being opposite methods when we can use them as complementary methods? The argument that the pharmaceutical drugs are not effective because we don't yet know their effects is unconvincing, since there are many cases in which we do know their effects and some of them are available to millions of people worldwide without knowing all the specific ways in which they affect the organism. No matter which method we choose, it feels wrong to disregard pharmaceuticals

in favor of environmental engineering, as well as the other way around. We should use whatever methods have been tested and proved to be safe and efficient, combine them whenever it's possible and not disregard them for fear that they might alter our biology, since our biology can be altered by a lot of things in a beneficial way.

3. Autonomy and assisted reproductive technologies

Pharmaceuticals are not the only way to improve our autonomy. We can find conclusive evidence of such improvement if we turn our eyes and scrutinize the use of available technologies for assisted reproduction. In their highly influential book *Principles of biomedical ethics*, Beauchamp and Childress have promoted the idea of autonomy as a negative right, that is, as the lack of coercion from outside forces (Beauchamp & Childress, 2001). This means that a patient can't be forced to be the subject of a specific medical procedure if he doesn't consent to that procedure, so doctors can't force a patient to follow a certain treatment because that would violate his autonomy. In the last decades, however, due to important advancements in genetics and assisted reproductive technologies, the paradigm has shifted for autonomy as well and it has become an important human value to be promoted, an end which is valuable in itself and towards which we must strive, and not just a negative right (Juth, 2011, p. 39). Many geneticists consider autonomy as being the main value of their work (Wertz & Fletcher, 1988), which suggests that they may be onto something when pursuing such a goal with the use of biotechnologies.

Today we possess powerful technologies which can help parents choose the sex of their child as well as select an embryo with certain features from a plethora of options. These technologies usually include in vitro fertilization (IVF) and preimplantation genetic diagnosis (PGD). Such technologies help parents select the child whom they deem most worthy to be brought into existence and so they put this responsibility on their shoulders instead of letting this selection to the randomness of nature, God, chance, genetic lottery, or whatever one might want to call it. These technologies are usually controversial because people are generally hostile to the idea of intervening at the genetic level in order to actively select certain features of the fetus. But the impact that these technologies have on the well-being and autonomy of the future child as well as on the parents is too important to just be disregarded on the basis of some irrational *status-quo bias* (Bostrom & Ord, 2006). They have an impact on the child, because they make him more suited for a successful life by diminishing the risks for

disease and by giving him better abilities. They have an impact on the parents as well, because they are given more options regarding the future child whom they want to bring into existence. Of course, the choice is made, in this scenario, by the parents on behalf of the future child, but this is surely better than leaving this option to some random genetic lottery with no interest for the well-being of the future child. Just like in the case of Modafinil improving the life of architects and graphic designers by helping them to better accomplish their projects, so can, in this case, assisted reproductive technologies offer parents the possibility to better fulfill their idea of a happy family. So, it doesn't feel forced to assume that these technologies do indeed promote reproductive autonomy (Chadwick et al., 1999).

Like in most cases, the real problem comes from another direction than that of the use of the technology *per se*. As I stated before, these technologies place an enormous burden on us by giving us a lot of responsibility, the responsibility of choosing the kind of child that we want to bring into the world. For some people, this might be too much, they can be so scared at this prospect that they might refuse the technology altogether. Others might be more willing to embrace these technologies, but without assuming full responsibility. With powerful technologies also come greater responsibilities. By people who don't assume full responsibility when using assisted reproductive technologies, I mean those parents who might become so invested in selecting a particular kind of child that they tend to overlook taking into account or forecasting the potential level of well-being of the future child. Assisted reproductive technologies are like a double-edged sword with no intentionality of its own. This means that it can cut both ways and it is the handler of the sword who decides in which way to swing the sword. We can assume that most people will choose to bring into the world, with the aid of these technologies, children who have the best prospects for living a good life, but there might also be parents who won't be concerned about this matter, as it is safe to assume that not all people are concerned about ethics.

At this point we should ask ourselves how much autonomy should be granted to parents willing to bring into existence children with the aid of such technologies. Here we have several competing principles of procreative selection from which we can choose. I will try to point out several key differences among them in order to estimate which one(s) might be the best to use and which one(s) we should leave behind.

The most permissive principle of procreative selection is the principle of *procreative autonomy*. This principle states roughly that *If reproducers*

have decided to have a child, and selection is possible, then any procreative option selected by reproducers is morally permissible as long as it is chosen autonomously (Savulescu & Kahane, 2009, p. 279). This kind of conception is usually attributed to the so-called liberal eugenics, for whom the personal autonomy of the parents seems to be an absolute value (Agar, 2004, p. 6). However, giving so much autonomy to parents with no regard for the prospects of the well-being of the child makes this principle implausible. According to this principle, for instance, parents could choose to bring into existence severely impaired children using biotechnologies and the state couldn't interfere with their choice because it would violate their autonomy. It's relatively easy to see why this principle is implausible and rather disturbing if it were to be applied to real-life scenarios. This principle would basically allow parents to deliberately bring into existence children with disabilities: blind, deaf, handicapped or even suffering from Down Syndrome or Huntington disease. There is already a precedent for deliberately selecting children with disabilities with the aid of these technologies. In 2002, a deaf lesbian couple sought and was successful in bringing into existence a deaf child by using sperm from a deaf male for artificial insemination (Spriggs, 2002). Their argument for doing so was that *deafness is not a medical disability, but a cultural identity* (Mundy, 2002). This means that the members of the deaf community are the exponents of a unique kind of culture which the members of the hearing community don't quite understand and because they don't understand it, they shouldn't interfere with their reproductive autonomy. Deafness is, however, considered a disability under the Americans with Disabilities Act (Mundy, 2002).

The first thing we should notice here is that, no matter how we see deafness, deaf people have a beautiful culture and can live lives full of happiness and accomplishments, in many cases even better lives than people whom we usually deem normal, that is, who have all their senses unaltered. Being deaf is compatible with having a wonderful life and developing healthy relationships. The problem lies, therefore, not in the fact that the life of the deaf child would be less worth living, but in the fact that by bringing into existence in a deliberate manner, *via* biotechnologies, a deaf child, we are not concerned with the best interests and the well-being of the future child and are closing the door to a potentially healthy child with the ability to hear and enjoy activities which imply the sense of hearing. This is not just an isolated case. According to Nancy Rarus *there are many, many deaf people who specifically want deaf kids* (Mundy, 2002).

Julian Savulescu gives a relevant example when comparing a deaf child to a child who lives in China and only speaks English (Savulescu, 2002,

p. 771). Surely, the life of the child who only speaks English is a good life, but it would be even better if he spoke Chinese because it would open for him a new array of opportunities, so we shouldn't refrain him from learning Chinese if given the chance, because that would mean restricting his life choices: *Hearing children of deaf parents can learn to sign, just as children of English parents can learn to speak Chinese as well as English. It is better to speak two languages rather than one, to understand two cultures rather than one* (Savulescu, 2002, p. 771). In this case, selecting the child who doesn't have the deafness trait clearly has more advantages, because it provides him with more life-options. If at some point the child decides, for whatever reasons, to abandon the hearing community and only be a part of the deaf community, he can choose to lose his hearing. But being born without the sense of hearing deprives the child from the start of so many life pleasures which have a significant impact on his well-being, since *deaf people are denied the world of sound, music, and the most fundamental form of human communication* (Savulescu, 2002, p. 771). But does this mean that we should ban parents from using biotechnologies in this way? Julian Savulescu claims that we don't have to go that far in restricting their personal autonomy: *Because reproductive choices to have a disabled child do not harm the child, couples who select disabled rather than non-disabled offspring should be allowed to make those choices, even though they may be having a child with worse life prospects* (Savulescu, 2002, p. 772). However, this kind of permissibility might seem a bit odd, since the fact that the child is not harmed is a bit of a stretch in cases like this one. After all, the fact that the child will be born without the sense of hearing represents a failure to take into account the interest of the future child, a failure to select the child who doesn't have this disability.

Deafness is, however, just an example and there are countless other examples. Another example is deliberating bring into existence via biotechnologies children with the Down Syndrome. As Savulescu argues, *In antenatal care, screening for Down's syndrome is now offered routinely. Each couple makes its own decision about whether or not to have a child with Down's syndrome* (Savulescu, 2002, p. 772). And the examples can continue. I would not try to settle this kind of dispute here because I don't think that this is something that one can settle in an article. I also think that bringing children with such disabilities into the world is morally wrong if it's done in a conscious and deliberate manner because it disregards the life prospects of the future child and it is guided by an extravagant idea of parenting. What is sure is that we need to establish a threshold for such cases and implement regulations at a global level regarding the use of these technologies. It is undeniable that there are instances when it is preferable to limit the autonomy of parents regarding the use of these technologies. What this threshold is and how the regulations

should apply in each case should be a matter of public debate and not the decision of a single individual.

When using assisted reproductive technologies, it is imperative to take into consideration the expected well-being of the future child and not just the respect for the autonomy of the parents who wish to have a child with specific traits. It won't be possible to calculate the precise level of well-being, for sure, but we can nevertheless make a rough estimation. Failing to take into account this expected well-being means failing the child. At this point, well-being might enter in opposition with autonomy. This can be seen in the form of the procreative principle of respect for the autonomy of future persons: *If reproducers have decided to have a child, and selection is possible, then they have a significant moral reason to aim, not to maximise expected well-being, but to maximize expected autonomy* (Savulescu & Kahane, 2009, p. 282). In this case autonomy would be something which is intrinsically good rather than instrumentally good, so it would mean autonomy for the sake of autonomy, not aiming for well-being. But these 2 concepts are strongly interconnected, and in most cases a more autonomous person is more apt to follow her own idea of a good life and live a happy life. As Savulescu and Kahane argue: *It seems to us doubtful that having a wider range of choices is valuable in itself, independently of its contribution to expected well-being* (Savulescu & Kahane, 2009, p. 282). So, if we were to oppose respect for autonomy to well-being, there would be, most likely, many instances where the value of well-being might override the respect for autonomy, perhaps in most cases.

Neil Levy considers that, while there's room for improvement regarding the social inclusion of deaf people, the disadvantages which come with deafness are not entirely reducible to discrimination. Even in the most non-discriminatory society *The deaf will always be cut off from the buzz of conversation, always restricted to a narrower range of jobs, always slightly alienated from the mainstream of political, social, and cultural life* (Levy, 2002, p. 284). This means that deafness is a limitation which we have reasons to avoid and that parents who choose to bring children in the world using biotechnologies are violating the child's right to an open future (Levy, 2002, p. 284). However, their choice is probably an irrational and subconscious fear that the relation with the child would be altered if the child could hear: *We ought to remember the extent to which they, like many other deaf people, felt isolated and alone as children, cut off not only from their schoolmates but also from their own family. They fear a similar fate for their children; that a nearly insuperable barrier will divide mother and child. In reality, their fear is misplaced* (Levy, 2002, p. 285). I agree with Levy on this point that *we ought to react to them with compassion and understanding, not condemnation* (Levy, 2002, p. 285). So perhaps the best course of action is to

try to persuade such parents through counseling that bringing a hearing child into the world won't negatively impact the relation with the future child and that it would have great benefits for the child's happiness. If such counseling fails, then we must have some strong regulations which should restrict the parents' autonomy and compel them to take into account the needs and best interests of the future child. One such best interest is that he has all his senses unaltered.

To some extent, I think that parents who choose to actively use biotechnologies in order to bring into existence children with disabilities resemble conspiracy theorists (at least when it comes to invoking the right to autonomy) who invest a lot of time, resources and energy in order to justify their beliefs and promote their wild theories in society. Flat-Earthers, for instance, make donations to support their cause, hold conferences and are vocal about their beliefs. Both groups hold false beliefs and act upon them and invoke autonomy as a sacred right if someone were to stop them from acting on those beliefs. Society, however, doesn't ban flat-earthers from holding their beliefs, even though those beliefs are wrong and lead them to a waste of resources and energy, but if the movement would become large enough so that it would threaten social stability, we might want to ban people from adhering to such a movement. The same thing could apply to parents who are selecting for children with disabilities. If such a practice would become too widespread, we would have strong reasons to ban it. However, *it is unlikely that many people would make a selection for disability* (Savulescu, 2002, p. 773). But even if the practice is not widespread, shouldn't we try to do more in order to prevent these kinds of choices? Referring to a study published in 2008 (Baruch et al., 2008), Julian Savulescu and Guy Kahane claim that *5% of 190 of PGD clinics surveyed in the US have allowed parents to select embryos with conditions commonly taken to be disabilities* (Savulescu & Kahane, 2009, p. 284). The disagreement among the clinic directors who answered the survey shows that the controversy is far from reaching a solution in the near future: *Forty-five percent of all clinics agree or strongly agree with the statement "there will be restrictions on using PGD for nonmedical genetic traits such as sex." Forty-three percent disagree or strongly disagree with that statement, and 12% "don't know."* (Baruch et al., 2008).

An important principle in the assisted reproduction debate is the principle of procreative beneficence (PB) which, unlike other principles, places the weight center on the concept of well-being. This principle states that: *If couples (or single reproducers) have decided to have a child, and selection is possible, then they have a significant moral reason to select the child, of the possible children they could have, whose life can be expected, in light of the relevant available*

information, to go best or at least not worse than any of the others (Savulescu & Kahane, 2009, p. 274). According to this principle we have, therefore, a moral obligation to use assisted reproductive technologies in order to bring into existence children who are expected to have the best possible life. The principle is controversial, even though many people agree that we must take into consideration the potential for a happy life of the child who is brought into existence. If we use genetic testing to screen for certain diseases, we have reasons to select that embryo which doesn't have a predisposition to severe diseases, so we *have reason to aim to have children who are more advantaged rather than leave this to chance or nature* (Savulescu & Kahane, 2009, p. 276). This principle helps us shed light on how to approach cases of disability, such as the case with deafness. If the deaf child is expected to have a less fulfilled life than that of a child without this limitation, so that the expected well-being is higher in the second case, then PB gives us strong reasons to select the second child instead of the deaf one. As things seem to be, here the respect for the well-being of the child overrides the respect for the autonomy of the parents. So, the idea is that we shouldn't treat autonomy as an absolute right with which we mustn't interfere under no circumstance. The same applies for PB. PB shouldn't be understood like an absolute principle: *PB is not an absolute obligation. It is the claim that there is a significant moral reason to choose the better child. The principle states, not what people invariably must do, but what they have significant moral reason to do* (Savulescu & Kahane, 2009, p. 278).

However, one might argue that this principle, in this form, is not sufficient when considering the life of the future child. Sure, it takes into account the well-being of the future child and not just the desires of the parents, which is of utmost importance, but it doesn't say anything about the contribution of the child to the well-being of others. This point is made clear by Thomas Douglas and Katrien Devolder in an article from 2013. They give the example of a parent who can choose between 2 children: Paul, a child with a high level of well-being, but who is a free-rider, and another child, Liza, who will have slightly less personal well-being in her life, but who will contribute more to the general well-being of other people: *It can be expected, let us stipulate, that, though both will enjoy good lives, Paul's life will contain somewhat more well-being than Liza's, but that Liza, being less disposed to free-riding, will contribute much more to the well-being of others than Paul* (Douglas & Devolder, 2013, p. 402). In this case it would be preferable, the authors claim, to select the child who contributes more to the well-being of other people. This example shows us that the well-being of the future child is not the only thing to take into consideration when deliberating about the kind of child we want

to bring into the world. The way that the child will interact with others and will care about others' sorrows and well-being is also important and is the hallmark of a true moral life. We already teach children in society the importance of altruism, self-sacrifice and taking into account the interests of other people, so why not doing this from birth by selecting those embryos with a predisposition to altruism? This is exactly what the principle of Procreative Altruism (PA) would have us do*: If couples (or single reproducers) have decided to have a child, and selection is possible, they have significant moral reason to select a child whose existence can be expected to contribute more to (or detract less from) the well-being of others than any alternative child they could have* (Douglas & Devolder, 2013, p. 403). According to these authors, the PB is *an individualistic selection principle* (Douglas & Devolder, 2013, p. 406) because it only takes into account the well-being of the future child. The authors don't want to dismiss the PB principle, but to complement it by adding the PA principle as a supplement: *Our claim is that the conjunction of any individualistic selection principle and Procreative Altruism provides a superior practical basis for making selection decisions* (Douglas & Devolder, 2013, p. 403).

The limitations of the PB principle can best be assessed when considering the effects of assisted reproductive technologies at the collective level. If bringing a child into existence would only be about his well-being, then PB would indeed be enough as a reproductive selection principle. But bringing a child into the world is much more than that: parents are responsible for the education and the values that they'll pass on to the child, as well as, at least to a certain extent, for the way that the child will treat others and will contribute to their well-being. The fact that assisted reproductive technologies are becoming available to large segments of population in an accelerated manner poses coordination problems at the collective level. For example, in India and China, who already have more men than women, these technologies could be used to discriminate against women and select more male children because culturally, in these societies, it is considered to be an advantage to be a male rather than a female. So, these technologies, if it were to fall in the wrong hands, might lead to pernicious outcomes at the societal level.

When we refer to autonomy, the widespread use of such technology might actually prove to have a negative outcome, since *even if someone can promote her autonomy by using a certain enhancement technology, it is conceivable that the more general use of such a technology decreases the total level of autonomy as compared to the situation where this technology is not used at all (or to a very limited extent)* (Juth, 2011, p. 44). Also, the fact that these technologies will soon be available on a large scale means that parents will select embryos with certain characteristics,

and it's likely that many parents will make similar choices, which will lead to a negative outcome. Such an example is the selection of taller children: if most parents will select taller children, this will lead to a futile and predictable waste of resources, given the fact that *height is a positional good: it is being tall relative to others that confers well-being, not being tall in an absolute sense" and "taller people will have more trouble living in existing buildings and may be more likely to suffer certain medical conditions, for example, due to increased strain on the heart* (Douglas & Devolder, 2013, p. 408). In such cases we might want to tread lightly, because what might seem at first glance as enhancing autonomy and well-being might prove to do us a disservice when considered in a broader social context. In order to prevent such disastrous outcomes, we must create laws and regulations with regard to the impact of such technologies at the collective level. We can't give full autonomy to parents for them to choose to do whatever they want with these technologies without any regard to the consequences of their choices for society as a whole. We must assess the risks posed by parents' choices regarding the impact of assisted reproductive technologies at the collective level and impose restrictions whenever it's the case.

There are several ways in which we might convince parents to take into account the consequences of their choices when using reproductive technologies: for example, we might use subsidies or force. As John Stuart Mill once argued: *The fact itself, of causing the existence of a human being, is one of the most responsible actions in the range of human life. To undertake this responsibility – to bestow a life which may be either a blessing or a curse – unless the being on whom it is bestowed will have at least the ordinary chances of a desirable existence, is a crime against that being* (Mill, 2003, p. 168). Most likely we will have to enforce certain social norms to which people would have to adapt and follow, but the solution to such complex issues won't be simple. Jonathan Anomaly suggests the following: *A less coercive but more radical alternative is to redesign political societies so that people have the right to form communities or states with a strong right to exclude those who choose to reproduce in a way that ignores the social consequences of their children's traits* (Anomaly, 2020, p. 16). He places the bet on small political communities which are more inclined to make the right choices and which could lead the way and make the best use out of assisted reproductive technologies. The bet, of course, is not safe and it's a reiteration of John Stuart Mill's idea about experiments in living, an idea advanced by many other thinkers, for example the biologist Joseph Henrich, who states that *we should take a page from cultural evolution's playbook and design "variation and selection systems" that will allow alternative institutions or organizational forms to compete*

(Henrich, 2015, p. 331). This kind of competition might *create the emergence of favorable reproductive norms* (Anomaly, 2020, p. 17).

For starters, we need to enforce some regulations on those parents who are bent on creating *wrongful life* (Shiffrin, 1999) and select embryos with serious genetic disease. Such regulations might consist in *information campaigns, stern advice from genetic counselors, and (at the limit) prohibitions on selecting embryos with serious inherited diseases* (Anomaly, 2020, p. 75). Whatever the solution might be, it would have to be a matter of public debate before going on in one direction or another.

4. Rejecting Bioconservative Objections

In the moral enhancement literature, there are some objections regarding the deployment of biomedical enhancement which have by now become a commonplace. One of the main objections is the fact that genetic manipulation of embryos negatively impacts the autonomy of the future child, sometimes referred to as the right to an open future. The idea of a right of the child to an open future has been developed by Joel Feinberg and then adapted by other authors as an objection to genetic engineering in general. The right to an open future takes the form of a conflict between parents and the state: *Children are not legally capable of defending their own future interests against present infringement by their parents, so that task must be performed for them, usually by the state in its role of parens patriae* (Feinberg, 1992, p. 79). The personality of the child is influenced by both his parents and the environment in which he grows. The will of the parents should therefore allow the child to develop in his own way and pay attention to his needs and interests. After all, the character of the child is *the product of a complicated interaction of external influences and ever-increasing contributions from his own earlier self* (Feinberg, 1992, p. 96).

Dena Davis uses this argument in order to combat genetic selection and makes an analogy with a child who would be prevented from attending school and having a basic education. This prevention would have, without a doubt, catastrophic results for his life by closing off many career opportunities and basically *deprives the child of the intellectual resources that contribute towards personal autonomy* (Schaefer et al., 2013, p. 131). Davis refers not only to existing children, but also to potential ones, such as the embryos who were genetically engineered and considers *that sex selection can be deleterious to the child's right to an open future* (Davis, 1997, p. 14). As we have previously seen, we need to always have in mind the life of the future children, and it is true that in a way the child *has a right against parents taking actions at any point—*

indeed, even before the child was conceived—that would inhibit the child's options later in life (Schaefer et al., 2013, p. 131). I think that Dena Davis is right to consider that genetic selection restricts the child's right to an open future in the case of selecting a deaf child instead of a hearing one, insofar as the deaf child would have less opportunities in life than the hearing child. All things considered, the future wouldn't be as open for the deaf child as it would be for the hearing child. The problem is that Davis extrapolates this particular scenario to the practice of genetic selection in general. For example, she believes that parents shouldn't test their children for Huntington disease (Davis, 1997, p. 14), an idea which betrays a strong conservative bias. In the case of the deaf child, the right to an open future is violated in the sense that the deaf child would have difficulties integrating into the hearing community. Because she targets genetic selection as a practice for enhancement, it means that Davis also opposes autonomy enhancement (even if she doesn't discuss autonomy enhancement *via* biomedical means). It is hard to see what reason we would have to oppose genetic selection and manipulation in general and not on a case-by-case basis. After all, as we have seen, certain practices might improve autonomy. If we have strong reasons to think that the autonomy of the future child would be improved by using genetic selection, then this is a path worth pursuing. Not only would this not limit the right of the child to an open future, but it would actually make it even wider. As Schaefer et al. observe: *being autonomous is integral to taking full advantage of various options; enhancing autonomy should directly promote the number and value of a child's options, not restrict them* (2013, p. 131).

There is a way in which the autonomy of the child might be restricted when using genetic selection and manipulation, but it doesn't have to do with the practice itself rather than with the attitude of the parents towards the *engineered* child. In other words, parents might become so invested in the process of designing the life of their future child, that they might become inclined to want to control too much of the child's life, they might become prone to what Michael Sandel calls *hyper-parenting* (Sandel, 2007). Hyper-parenting is not something which derives particularly from genetic manipulation, even though it's true that assisted reproductive technologies might reinforce such an attitude. For example, parents might use genetic manipulation *in order to enhance their child's athletic ability, because they very much want their child to be an elite athlete* (Schaefer et al., 2013, p. 132). If the child somehow deviates from this life-plan, then it might determine parents to adopt drastic measures in order to limit the autonomy of the child and keep him on the pre-established path that they have planned for him. Dena Davis goes further and considers cognitive enhancement as being

problematic in this sense: *Even traits that are useful for all life plans (such as intelligence) may be chosen with very particular life plans in mind, with expectations that may restrict the child's future freedom* (Davis, 2009, p. 26). However, even if genetic manipulation might reinforce hyper-parenting in this way up to a certain point, it is surely bad faith to generally condemn genetic enhancement for this reason. After all, we are talking here about enhancing autonomy, which will make the future child more immune to manipulation and deception, among other things. Even if parents are too obsessed with controlling the life of their offspring *via* genetic manipulation, *a child whose autonomy is enhanced will better be able to resist the effects of the intolerance of his or her parents' expectations, and more likely to pursue his or her own interests in spite of the parents' plans— even if the parents' aim in seeking this biomedical intervention had nothing to do with autonomy* (Schaefer et al., 2013, p. 132). It is expected that the child's sense of individuality and personal development will counterbalance the parents' need for control and therefore defeat hyper-parenting in the long term.

Another objection against biomedical interventions in general has been formulated by Jürgen Habermas. It has Kantian roots and it basically refers to not instrumentalizing future children *via* genetic interventions. He emphasizes the need for communication and discourse, as well as the importance of critically assessing one's condition regarding such biomedical practices (Habermas, 2003). Ideally, the child should be able to understand, evaluate and consent to the to the genetic interventions directed towards him. However, since these interventions are supposed to take place before he was even born, he can't give his consent, so we have the difficult task of having to find the best practices to which we can reasonably expect that he would consent if given the chance to reflect upon them. As Schaefer et al. observe, the general point of Habermas is that *inculcation of values and expectations is permissible, so long as adequate space is given for the child to reflect on such inculcation and guide the direction of his or her own intellectual growth. Autonomy, then, is crucial to people's very identity and sense of self* (Schaefer et al., 2013, p. 132).

The fact itself that genetic manipulation takes place before the child being able to consent to the intervention is considered by Habermas to be a reason against such interventions: *Eugenic interventions aiming at enhancement reduce ethical freedom insofar as they tie down the person concerned to rejected, but irreversible intentions of their parties, barring him from the spontaneous self-perception of being the undivided author of his own life* (Habermas, 2003, p. 63). The issue at stake is not only that genetic manipulation might restrict certain options of the child, but that *the child himself or herself had no input or communicative engagement with that restriction* (Schaefer et al., 2013, p. 133). However,

Habermas concedes the fact *that genetic manipulation in order to prevent grave illnesses in future children may be permissible because it is reasonable to presume that the resultant child would agree to the procedure* (Schaefer et al., p. 133). For Habermas, *autonomy is central to human agency* (Schaefer et al, p. 133). This means that the kind of autonomy enhancement that we have in mind should be accepted also by Habermas since, after all, *enhancement of autonomy via improved cognitive abilities would improve the child's ability to communicatively engage with the world. So, for instance, by making someone more self-aware and cognizant of the various factors that influence them, they will be better able to guide and direct their own growth* (Schaefer et al., 2013, p. 133). Also, the enhancement of autonomy helps in preventing the instrumentalization of the human being that Habermas fears so much: *enhancing autonomy would be a powerful weapon against instrumentalization, insofar as it could prevent people from having a distorted view of the world and themselves. As Habermas takes the capacity to personally engage with and provide input into the factors that shape one's life to be so central, he should embrace autonomy enhancements as a useful tool to improve that capacity* (Schaefer et al., 2013, p. 133).

Selecting for the traits of future children is no easy task. Whatever we choose to select has a direct impact on the life of the future child, so there's a feeling of uneasiness here regarding the question if we're doing the right thing and the same thing also holds for autonomy enhancement: *the decision to decline or even prohibit autonomy enhancement would similarly not be the result of a communicative process with the resultant child—no matter what, the parent must make a decision without input from the resultant child, and it is surely better to choose the option that results in more autonomy* (Schaefer et al., 2013, p. 134) But parents are already doing this in our society through education and the inculcation of moral values to their children. So, education itself *is, to some degree, imposed on young children without communicative dialogue* (Schaefer et al, 2013, p. 134), and yet nobody considers this point controversial and rightly so. It would indeed be ridiculous to condition the process of education to the consent of the child and the same case should apply to autonomy enhancement.

Nick Bostrom is another scholar who argues against the idea that enhancement technologies restrict the right to an open future, because, in fact, the enhanced child *would enjoy more choice and autonomy in her life, if the modifications were such as to expand her basic capability set* because they would *open more life-plans than they block* (Bostrom, 2005, p. 212). The idea that enhancement technologies might inhibit the autonomy of the future child seems therefore a *non-sequitur* (Malmqvist, 2011). Habermas considers that there are subjacent expectations of the parents in the motivation to use germline enhancement: *The parent's choice of a genetic program is associated with intentions which later take on the form of expectations addressed to the child* (Habermas,

2003, p. 51). Habermas also talks about *dissonant cases* in which *Eugenic interventions aiming at enhancement reduce ethical freedom insofar as they tie down the person concerned to rejected but irreversible third party intentions* (Habermas, 2003, p. 63). Prusak argues, interpreting Habermas, that *the contingency of our genetic makeup might well be necessary for a person to be capable of regarding herself as an autonomous being* (Prusak, 2005, p. 35). But this contingency seems to show the preference for a *status quo bias*, rather than a concern for autonomy, since contingency can lead too often to unwanted consequences which could be avoided if we were less reluctant regarding the use of genetic engineering.

Habermas appeals to the treatment/enhancement distinction when criticizing genetic manipulation. For him, the use of genetic manipulation solely on treatment grounds is acceptable insofar as the grave illness it prevents is *unquestionably extreme, and likely to be rejected by all* (Habermas, 2003, p. 43). On the other hand, in the case of enhancing memory or intelligence, he argues, same as Dena Davis, that we can't be sure that such characteristics will benefit the future child in all contexts: *Can parents wanting only the best for their child ever really presume to know all the circumstances . . . in which a brilliant memory . . . or high intelligence will prove a benefit for their child?* (Habermas, 2003, p. 85). But even if we can't be 100% sure that these characteristics will indeed benefit the future child, it is nevertheless safer to bet on these characteristics than on the contingency of Mother Nature or the genetic lottery. As Jonathan Pugh argues *parents cannot predict with absolute certainty that any way in which they affect their child will increase the child's well-being. Rather, parents choose to affect their child in the ways that they do on the basis of what it is rational for them to believe will benefit their child. For instance, they believe that reading bed-time stories to a child is more likely to increase future literacy than it is to induce deep melancholia. However, they cannot be certain that this will be the case. Yet this does not represent an argument against reading bed-time stories* (Pugh, 2015, 151). When discussing about the characteristics we wish to enhance in future children we are dealing, of course, with probabilities, not certainties. We hope that we are choosing what's best for the child even when we don't know for sure how those characteristics that we want to enhance will impact his life. Parents should use those methods which are expected to improve the quality of life of the future child. The keyword here is *expected*, since no parent can know for sure if a certain method will benefit the child. But if we have strong reasons to believe that the enhancement of desired characteristics will, all things considered, improve the life of the child, we should opt for enhancement.

5. Authenticity and Autonomy

In general, the concept of autonomy has been understood by many authors as being strongly correlated with the concept of authenticity. Authenticity, just as autonomy, is a hard to define concept. Some consider it to be too *vague and underspecified* (Schaefer et al., 2013, p. 125) in order to be of any relevant help in the discussion about autonomy. Other authors consider it crucial for autonomy, in the sense that a person's choices and actions can't really be considered autonomous unless they're also authentic. But how is authenticity to be understood? Authenticity is generally understood to be true to oneself: *we each have a way of living that is uniquely our own, and that we are each called to live in our own way, rather than that of someone else* (Taylor, 1992, p. 28), and some authors even consider it to be the most fundamental component of autonomy (Christman, 1988). Defined in relation with autonomy, authenticity refers therefore to the extent to which one's actions, choices and behavior in general are truly one's own. This is, of course, an impossible thing to determine, which makes the discussion highly speculative at this point. The main worry is that enhancement technologies will have such an impact on our behavior that it will make us depart from who we really are. As Elliott puts it: *It would be worrying if Prozac altered my personality, even if it gave me a better personality, simply because it isn't my personality. This kind of personality change seems to defy an ethics of authenticity* (Elliott, 1998, p. 182). This seems to suggest that pharmaceuticals don't really improve our behavior, but rather alter it in a manner that makes us less true to ourselves, which in turn makes us somehow fail to live a worthy life: *I miss the point of my life, I miss what being human is for me* (Taylor, 1992, p. 29). This kind of criticism doesn't refer only to psychopharmaceuticals, but also to assisted reproductive technologies to the extent that these technologies, because of the set of options they can offer women, can *reinforce societal norms that a "real" woman should have biological children of her own. So the desire is the result of a cultural indoctrination of a gender oppressive kind, by being part of common beliefs and norms that contribute to the subordination of women* (Juth, 2011, p. 40).

The same case can be made for enhancing physical appearance *via* cosmetic surgery: that by doing this, women are actually reinforcing patriarchal values. These arguments usually try to convince us that, because there's a chance that these desires of women might be the result of cultural indoctrination and subconscious patriarchal norms, they must necessarily be inauthentic, and by acting on them women are not actually acting autonomously. But this kind of argument places too high of a threshold when it comes to deciding when someone actually does act autonomously,

because all our desires are influenced, to a certain degree, by our society, culture, norms and so on. If we were to track the birth of a desire in a person, we wouldn't be able to find a single desire which wasn't influenced by external factors. As Niklas Juth judiciously argues *Since all desires entertained by a person have a causal history that is (at least partly) uncontrolled by the person herself, the self-governance of the creation of the desire cannot very well be the mark of authenticity (unless we would like a theory of authenticity implying that no actual person can have authentic desires)* (Juth, 2011, p. 41). Moreover, it is unconvincing to say that biotechnologies which can help us make our lives better in more than one way should be rejected on the sole ground that they might, sometimes, lead to reinforcing oppressive norms. If the norms are oppressive, then people should just reflect more on the nature of those norms and use biotechnologies accordingly. To claim that people would just use biotechnologies in order to reinforce patriarchal or oppressive norms means to give little credence to the ability of people to think for themselves and be autonomous. People are in general very diverse, some are conservatives, others progressives and others in-between. It is most likely that strong conservatives, which are more inclined to reinforce patriarchal norms, won't be open to the idea of using such biotechnologies, so those who would indeed use them are most likely to be progressives or in-between and their desires should be considered authentic as long as they are informed and they have given their consent: *a desire is self-determined if the person having it would approve of it in the light of information of why she has it, not if she ought to approve of it in the name of social justice or the like* (Juth, 2011, p. 42). This means that if a woman wants to have a child and to use biotechnologies in order to select for specific traits, we shouldn't consider her desire inauthentic and lacking autonomy insofar as her choice doesn't negatively impact the life of the future child and she is competent enough to make choices on her own. The respect for the autonomy of the person overrides, in this case, a presumably inauthentic desire which might impair one's autonomy.

When arguing against the use of pharmaceuticals, the objections don't usually refer to oppressive social norms but rather to the fact that the drugs might alter the enhanced person in some irreversible way: . . .*biomedical interventions act directly on the human body and mind to bring about their effects on a subject who is not merely passive but who plays no role at all. He can at best feel their effects without understanding their meaning in human terms. . . Thus, a drug that brightened our mood would alter us without our understanding how and why it did so — whereas a mood brightened as a fitting response to the arrival of a loved one or an achievement in one's work is perfectly, because humanly, intelligible* (Kass, 2003, p. 22). However, this kind of objection seem very imprecise, since it is hard to

grasp the meaning of *in human terms*. As Niklas Juth rightly asks: *Why is it not even possible to understand why one becomes happier from using SSRI or more able to perform complicated graphic tasks from using Modafinil?* (Juth, 2011, p. 43). Not only is it understandable, but in many cases it's desirable and it can even be argued that we have a moral obligation to enhance in some cases. It is important to stress here that pharmaceuticals don't change who we are and don't transform us in other persons with different reasons from those of the person we used to be before the enhancement, because our reasons stay the same after the enhancement. In this sense *the scenario in which reducing the need to sleep and gaining in some respects a better working memory by using Modafinil, changes one's deeply held convictions and plans of life is hard to imagine* (Juth, 2011, p. 43).

Moreover, pharmaceuticals can actually help us discover our true self, thereby making our choices more authentic as a result of the drugs. This can be seen in patients using antidepressants in order to improve their mood. According to Peter Kramer, his patients reported that they were their true selves when taking antidepressants, and once they stopped taking them, they reported that *I'm not myself* (Kramer, 1993, p. 19). Clinical studies do generally seem to indicate that pharmaceuticals can improve one's mood and with this the sense of one's self.

According to Elliott's view of authenticity (1998), people's choices and desires can become less authentic after the use of pharmaceuticals. But even if they were, admitting for the argument's sake, inauthentic, does this mean that they shouldn't be used at all? After all, Elliott's ethics of authenticity is not the only conception of authenticity. His conception is an individualistic conception of the self, which is inspired by the Romantic movement with its emphasis on the idea of a unique self that each of us has and needs to discover. However, this is not the only available conception of authenticity and there are other conceptions of authenticity which emphasize self-creation rather than self-discovery (DeGrazia, 2000). The philosopher who is most associated with the self-creation conception of authenticity is Jean-Paul Sartre, who denied that people have an essence and considered that we are responsible for who we are because we can actively collaborate in the process of creating our own self (Sartre, 1955). This implies that we shouldn't accept who we are from the start and consider us tied by some abstract metaphysical essence and that we should strive to improve ourselves in order to become better versions of ourselves. In striving towards this ideal, we are free to employ whatever methods we deem appropriate and if pharmaceuticals which can make our lives go better are available, then it is hard to see why we shouldn't use them.

We find ourselves at a crossroads where we can opt for one of these 2 conceptions of authenticity: self-discovery or self-creation. As N. Levy puts it: *Are we most human, do we live most meaningfully, by accepting our distinctive natures, or do we live most meaningfully by transcending limitations?* (Levy, 2011, p. 312). It is hard to settle such a dispute as both conceptions have some strong points which we can't ignore. Both of these conceptions have their fair share of truth when it comes to how we should view authenticity. Erik Parens, one of the leading figures in bioethics, considers that we can't really resolve this dispute and that we should just acknowledge the powerful force of each of these conceptions without trying to solve the tension between the two, since it's impossible to choose one conception over the other (Parens, 2005). However, there is reason to believe that, even if we can't settle this dispute, pharmaceuticals can still be of use in our quest for authenticity (and autonomy).

Research shows us that pharmaceuticals have the power to make us more predisposed to behave in a certain manner, so they do not determine us to behave in a way which we haven't already endorsed. If my true self is to be discovered or created/altered in a way which can help me to be more at ease with myself by using pharmaceuticals, then my authenticity would most likely be enhanced in this way, not hindered. Because in the end, what matters is how I feel about myself after being enhanced and if my values are the same, not that something in my conception of autonomy wasn't respected. Even the self-discovery conception of autonomy, in its moderate form, that is if it doesn't consider that humans have a fixed essence which shouldn't be altered under any circumstance, can be compatible with the idea of enhancing our authenticity *via* biotechnologies: *Self-discovery might require change from us, and to that extent it is entirely compatible with the use of various enhancements. Just as the person suffering from Gender Identity Disorder might come to be who they really are by means of an intervention, so the depressed person might become who they are by means of Prozac* (Levy, 2011, p. 316).

According to hierarchical theories of autonomy, when there's a harmony between lower and higher-order desires it means that the desires are also authentic (Dworkin, 1988, p. 25). This harmony usually happens if the person identifies with her first-order desires and this identification is supposed to bring satisfaction, because it *entails an absence of restlessness or resistance ... A satisfied person has no interest in bringing about a change, being better is not interesting or important to him*. (Frankfurt, 1999, p. 105). Inauthenticity, therefore, relates to alienation, which is nothing else than *the inability to accommodate pro-attitudes that conflict with one's self-concept. If someone is alienated from his first-order pro-attitudes, the resulting actions are not autonomous* (Bublitz &

Merkel, 2009, p. 363). But in most cases pharmaceuticals don't work in this way, that is, they don't lead to inauthenticity and this conclusion comes also from the testimonies of those who have used them. Taking a drug in order to have improved capacities doesn't result in one having a different self. It's not as if some new self is replacing the old self, because taking a drug is not the same thing as having a chip implanted in our brain which can decide for us how to behave. Taking pharmaceuticals does not drastically change our behavior in this manner, it does not invade our self: *Raising serotonin levels that alter mood is not an imposition or replacement of an alien mechanism over an authentic one but rather the modification or reconfiguration of a system* (Bublitz & Merkel, 2009, p. 365). Serotonin is just an example, but any neurotransmitter we might consider works in this way. They can work either in a natural way: for example, a person doing exercise every day increases *his ephedrine production, elevating his mood and acquiring new pro-attitudes* (Bublitz & Merkel, 2009, p. 367), or in an artificial way by improving our mood using Prozac or other antidepressants. Of course, it might be the case that in the second scenario Prozac is more efficient than physical exercise, but neither should be seen as posing a threat to autonomy.

There is a struggle between internal and external theories of autonomy to accommodate the use of biotechnologies, but the use of pharmaceuticals should be theoretically compatible with both types of theory. Bublitz and Merkel consider that people who use neuroenhancements should be considered autonomous under certain circumstances regardless of the self-discovery/self-creation (sometimes referred to as the essentialist/existentialist) distinction: *if agents who possess the minimal autonomy capacities self-initiate neuroenhancements and then identify with the results, they are autonomous* (Bublitz & Merkel, 2009, p. 372). Even if authenticity is not necessary for autonomy, as the authors argue, it does have value beyond the concept of autonomy. When the authors ask *would you marry someone who asked for your hand under the spell of lovafinil, a potent love potion?* (Bublitz & Merkel, 2009, p. 374) it's not as weird today to answer yes to this question as it used to be in the past. Today we talk about *love drugs* (Earp & Savulescu, 2020) and there are people around the world who consider that such drugs can improve their relationships and are happy to have them available and use them. Should we stop such persons from taking the drugs and accuse them of having an inauthentic love? If they identify with the results and they manage to have better relationships, then it would be a mistake to stop them from using these drugs and they can even be considered more authentic/true to themselves than before.

6. Conclusion

The debate regarding the use of enhancement technologies has become very passionate in the last decades, with attitudes varying from downright hostility to unconditional approval when it comes to the use of such technologies. A lot of work and energy has been put in researching and developing new technologies which can improve our life and for some biotechnologies it took longer than expected to elicit the interest of philosophers. It's true that the development of such technologies and the concerns they raise have revitalized ethics and have provided ethicians with new insights regarding the understanding and reinterpretation of certain values such as autonomy and authenticity, as well as with new ways in which human beings can improve their behavior.

In this paper I tried to explore the relation between enhancement technologies and the values of autonomy and authenticity and I argued in favor of the use of such technologies. Not only do these technologies not threat what we usually understand when we refer to autonomy and authenticity, but they can actually prove themselves good tools in our struggle to improve ourselves and become better persons. Autonomy is a multifaceted concept with many arrays of interpretation which has progressed over time and was transferred from the realm of political affairs to the everyday life and behavior of the moral agent. In biomedical ethics it has become more than a negative right, it has become a value which we have strong reasons to promote and an important part of our well-being.

I have tried to show that, even though there are many different theories of autonomy, we can reach a certain kind of agreement on how this concept is to be understood and that we can even improve our autonomy by combining various methods such as enhancement technologies and environmental engineering. There's no reason for us to consider new technologies as being in opposition with traditional ways of enhancement. If we have sufficient reasons backed by science to consider that genetic-altering technologies can help us make better use of our autonomy then we should not refrain from using them, because such refraining would be a path to encapsulate ourselves in a state of ignorance and irrational fear. Nootropics and antidepressants are a good example of how we can improve our autonomy by improving our reasoning abilities as well as our mood. If we can judge things more clearly and have better moral dispositions beneficial to our autonomy, then we have strong reasons to choose to enhance ourselves.

The advent of assisted reproductive technologies has made us more responsible regarding the children we choose to bring into existence. This is a unique chance in the history of our species, given the fact that our predecessors didn't have a choice and were forced to leave to chance important features of the reproductive process, such as sex selection and the traits of the future child. Today we have this choice and it is up to us to decide how to use such technologies. Assisted reproductive technologies have enhanced our autonomy regarding reproduction and perhaps they have given to some people more autonomy than they can handle. I have argued that we should restrict this autonomy in cases where societal norms demand it and that we should discourage parents from using these technologies in order to deliberately bring into existence children with disabilities instead of children who have all their senses unaltered. The interests of the future child should be taken into account and the state should be the guardian of these interests, protecting them from those parents who might be inclined to abuse their own autonomy.

Bringing a child into the world is one of the most important events in the lives of many people, if not the most important, and we should give this event the proper thought. When choosing between different procreative principles which can help us determine what kind of child we want to have, we should have in mind the interests of the child as well as the interests of the future persons with whom the child will interact during his life. With this in mind, I have argued that it's better to use a combination of Procreative Beneficence and Procreative Altruism when deciding what kind of child to bring into the world. This means that we have a moral obligation to select for the child who is expected to have the best prospects for the best moral life.

Medicine has evolved to new heights in the past few decades and so should our views about its role. Sticking to the idea that the role of medicine is solely to treat and prevent illnesses is an old-fashioned idea which doesn't synchronize well with the use of biotechnologies. The truth is that medicine has progressed to the point where we can alter our biology in specific ways so that we can become better and this is a reality which can no longer be ignored and disregarded. We should open the door for emerging technologies, expand our understanding of medicine and let it flourish the way it's supposed to.

Many authors talk about autonomy in terms of authenticity, meaning that a person can't really be autonomous if her desires or preferences aren't also authentic. Same as autonomy, authenticity is a vast concept with many different meanings which can transform our effort to define it into an

ordeal. I have tried to show that we should respect the desire of a moral agent to enhance himself with the aid of biomedical methods and consider it an authentic desire. If the moral agent is competent enough to make choices regarding those traits which he wants to improve in himself through the use of such technologies and if he is satisfied with the result, then there's no need to consider that result or the agent himself as being inauthentic. Enhancement technologies can help us discover or create our true self and, therefore, improve our authenticity rather than hinder it. If I take a drug like Prozac, which improves my mood and helps me finish those projects which give me a sense of purpose, meaning and fulfillment, then the drug helps me to be (and not just feel) more autonomous, as well as more authentic, it helps me be my best self.

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