

# SOME CURIOUS CASES AGAINST COGNITIVE HUMAN ENHANCEMENT

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In this article I analyse the definition of human cognitive enhancement and examine the arguments for and against it. Because of what I call “the Funes objection”, I adopt a welfarist approach to this issue. First, I consider the distinction between therapy and enhancement as well as the arguments in defense of the status quo. I argue that the objections against enhancement lose their strength once a welfarist approach is assumed, thereby offering no definitive arguments. Finally, I defend a form of cognitive human enhancement which strikes a balance between on the one hand the personal and impersonal point of view and on the other the main postulates of a liberal society.

**Keywords:** cognitive enhancement, welfare, therapy, liberal society.

Neste artigo analiso a definição de aperfeiçoamento cognitivo humano e examino os argumentos a favor e contra. Dado aquilo a que chamo “objecção Funes”, adoptando uma abordagem bem-estarista sobre esta questão. Em primeiro lugar, examino a distinção entre terapia e aperfeiçoamento, bem como os argumentos em defesa do *status quo*. Argumento que as objecções contra o “aperfeiçoamento” perdem a sua força uma vez que se assuma a abordagem bem-estarista, oferecendo assim argumentos não definitivos. Finalmente, defendo uma forma de aperfeiçoamento cognitivo humano que estabelece o equilíbrio entre, por um lado, o ponto de vista pessoal e impessoal e, por outro, os postulados principais de uma sociedade liberal.

**Palavras-chave:** aperfeiçoamento cognitivo, bem-estar, terapia, sociedade liberal.

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## Introduction

In this paper I analyse the definition of cognitive human enhancement, and its pros and cons in terms of three basic objections, namely those raised by the sorcerer apprentice, by irreversibility and by the purpose objections.

However, the aim of this work is certainly not restricted to the analysis of cognitive enhancements; many, if not all, of the arguments I will elaborate on regarding this topic are also applicable to any other. In my opinion, cognitive enhancement is a genuine test for our intuitions about the debate on human enhancement and that justifies the analysis.

In the third section, I consider the status quo argument form two basic objections: the respect for the unknown and human pride.

To conclude, I will carry out an assessment of the advantages and disadvantages of cognitive human enhancement, and put forward what is, in my opinion, the most consistent way to articulate the debate.

## 1. Defining Cognitive Human Enhancement

In order to consider the pros and cons that any enhancement could provide us, it must be first clarified what an enhancement is and, after that, what human capacities could be enhanced.

Regarding cognition, we can define it as the process by which an organism organizes information. This process involves certain abilities, namely: i) acquisition (perception); ii) selection (attention); iii) interpretation (understanding) and, iv) retention (memory).

Tentatively, we can define cognitive human enhancement (CHE) as any increase in any or all of these capacities. This is clearly a functional approach to CHE (FCHE). The main draw of FCHE seems to be its clarity. Nevertheless this clarity could be somewhat misleading. Consider the two following cases:

1. Medical assessment. The aim of most of medical treatments or therapies is to increase certain capacities. This is the case, for example, with heart or eye surgery and treatment.
2. Bad life. Sometimes, the improvement of some or all of these cognitive capacities could result in a worse life.

Both cases have some similarities but they are not identical at all. Both take into account a human range of normality as a criterion of evaluation. Otherwise it would be impossible to know why a treatment or surgery to restore a lost or damaged capacity is necessary, and what the improvement of a capacity means. From here on, I will refer to this first problem as the lightness problem, and the second, the Funes objection.

Let me begin for the latter. Ireneo Funes had the highest cognitive human capacities:

I alone have more memories than all mankind has probably had since the world has been the world. These memories were not simple ones; each visual imaging was linked to muscular sensations, thermal sensations. He could reconstruct all his dreams, all his half dreams" (Borges 1944:131).

It can be confirmed that Ireneo Funes was undoubtedly a superhuman. He had achieved an extraordinary level in most of the cognitive abilities, such as perception, attention, understanding and specially memory. The improvement of these cognitive capacities was a consequence of an accident he suffered when a teenager. However Ireneo Funes had not a good life at all. As himself recognized:

My memory, sir, is like a garbage heap (Ibidem).

Ireneo Funes is obviously a fictional character, the main character of a beautiful short story by Jorge Luis Borges. Even Funes' life is a matter of fictional literature it is possible to apply this example to CHE.

### 1.1 The Funes objection

As we saw according to FCHE, any increase in any or all human cognitive abilities could be understood as a case of enhancement. But this seems to be a flawed thesis. None of the improvement in the Funes' cognitive capacities increased his quality of life. Certainly, feeling that memory is like rubbish is not a quality of an enviable life at all. Usually cases of enhancement are identified as cases of improvement of other physical qualities or abilities, as in breast and lips surgery, and bodybuilding, even if the result is not entirely aesthetically pleasing. In other words, we consider these to be cases of enhancement because the people who undergo them have a better life, at least in some sense.

Thus, if as it seems, we are prone to deeming only those enhancements that increase both the extent of abilities and the quality of life as successful, then it seems that there are something unsuccessful in FCHE. After all, FCHE does not guarantee that any case of improvement will result in a case of wellbeing too. So in order to avoid the Funes objection we must take into account the quality of life. That is, give priority to the welfare.

### **1.2. Avoiding the Funes' Objection. The welfarist approach**

The priority of welfare that the Funes' objection opposes to FCHE challenges the E. In other words, the objection requires an ulterior justification of FCHE interventions in order to justify that the aim is not only to increase (or decrease) the extent of a capacity. These cases lie outside of CHE, lost the E. After all, it would be difficult to understand as a case of enhancement an intervention or treatment that can supposedly only improve the extent of a capacity, but turns out making the life worse. So, it is possible to say that not all the cases that lie in the functional approach (FCH) are actual cases of CHE, even when all CHE' cases are cases of FCH as well.

There are at least two ways to test this problem. The first one focuses on the individual assessment of FCH, as in the Funes case. I will call this approach the FCH personal dependent (FCHPD). The second one consists of an inter-subjective or impersonal assessment of FCH (FCHPI) as in the analyses normally carried out by Health Public Institutions.

Taking into account this distinction allows distinguishing between:

- The reasons that individuals have to undergo a Cognitive Enhancement intervention or treatment, and,
- The reasons that public institutions could have to ban or promote them.

Additionally, using this distinction, it is possible to carefully evaluate the differences between Enhancement and Therapy, a topic to which I shall return later, as it seems to play an important role in this issue.

Let us then consider a welfarist approach. According to Savulescu, Sandberg and Kahane, this approach consists of:

Any change in the biology or psychology of a person which increases the chances of leading a good life in the relevant set of circumstances (Savulescu, Sandberg & Kahane, 2011).

The welfarist approach to CHE (WCHE) is compatible with both FCHPD and FCHPI. Consequently WCHE rejects any FCH that does not increase the individual chances of leading a good life. Therefore, every FCH must fight to win the E, that is, to be recognized as a case of CHE. WCHE is, however, a firm trustee of E, even when it needs to justify F, that is, why the improvement of a cognitive capacity is important in increasing the chances of leading a good life.

Taking WCHE into account could be useful for at least three reasons:

- It requires and allows us to give some kind of justification to any CHE intervention.
- It shows that possessing these cognitive capacities is positive for leading a good life, as the case of the therapy shows, since its aim is always restorative.
- It is based on an ideal of good life that, in turn, depends on a concept of individuals and society.

From here forward, I will bear in mind WCHE in order to carefully analyse CHE including its criticism.

## 2. Pros and cons of CHE

In order to seriously consider the problems that CHE could cause a person, a society or even humanity as a whole, we need to draw an empirical or theoretical scenario in which they can take place.

Therefore, I assume that:

- The theoretical scenario of a genuine liberal democracy
- Every single CHE overcomes the Funes objection, that is, they lie in WCHE.
- The ideal of personal welfare has roots in a concept of individuals and society. In other words, in the concept of practical reason.

So bearing that in mind, let us examine the main criticism of CHE.

## 2.1. The Sorcerer' apprentice objection

Seriously considering CHE requires, as so happens with the sorcerer apprentice, warning about hubris. As the knowledge we have about brain and consequently cognition is partial, we are prone to suffering negative consequences from manipulating it.

This objection is important because it warns about the dangers of unpredictability, that is, about the negative impact that cognitive intervention or treatment could have in the future life of the people who undergo it. This objection can be understood in two different ways, the short and the long term.

The former points out the lack of safety of the techniques. All things considered the sorcerer apprentice is only that, an example of inexperienced learning on the art of performing magic. The second one shares the worry about technical safety too, but goes further. It calls into question the aim of performing magic by an apprentice that, if sure about something, it is his limited knowledge.

Let me consider both briefly.

### 2.1.1. The high-risk problem

The lack of safety is a serious problem considering health care in general. Newspapers highlight on a daily basis how some drugs are wrongly used for therapeutic purposes. This usage also applies to surgical procedures. Consider for example the intrinsic risk involved in every surgical procedure requiring general anaesthesia, or vascular surgeries, which are the most studied highest risk category.

Since the problem is general; it affects CHE to the same extent as other health care intervention and treatment. Thus, if we usually consider high-risk procedures as something that are up to the individual to decide on, there is no reason to deny the same capacity to decide to those who wish to undergo a CHE intervention.

Let us consider the structure of this problem:

- It takes into account the individual competence and autonomy to decide. This is to say, it adopts a CHEPD point of view.
- Since the objection is proportional to the level of safety of the technology, it does not oppose any serious objection to the Enhancement procedure.

- According to i) and ii) if the tech are reliable enough, enhancement interventions should be welcome from both Personal Dependent (CHEPD) and Personal Independent (CEHPI) points of view.
- Consequently according to iii), enhancement interventions should be promoted by Public Institutions.

## 2.2. The irreversibility problem

This problem has a similar structure to the previous one. Since taking risks is a personal matter, it would be a problem of individual business. That is, the problem would be dealt with following a FCHEPD point of view, too. However, the irreversibility problem seems to have further implications than the high-risk one. Consider germ line interventions. While the high-risk problem is related to the safety level, that is, to the level of knowledge, the challenge of the irreversibility problem is about the unknown. Given the magnitude of this challenge to manage, let us take it one step at a time.

Regarding individual capacity to decide, it certainly seems problematic to grant consent in germ line interventions. Thus, as far as it is true that germ line interventions can modify some primary goods, they affect the autonomy of future people. In other words, germ line interventions not only modify the natural lottery of every single person, but that of future generations, too. Thus, this problem must be carefully considered.

The first step is to distinguish between both the Personal Dependent (CHEPD) and Personal Independent (CHEPI) points of view. If the problem is related to the former, we must be aware of the erroneous comparison between an existing human being and another who has not yet been conceived. This comparison is surely as incorrect as wondering about one's own identity if one's parents had never met. As Derek Parfit shows us, the answer is: "No one" (Parfit, 1984: 351).

Thus, if we have to decide it is necessary to know what the priority is, whether it be preserving the natural lottery or enforcing personal autonomy. In my opinion, most people would choose the latter option. At least all those who think that surgery could be a satisfactory way to repair some innate disabilities have a clear intuition about that. But, if we are prone to considering that undergoing surgery for foetal brain defects is something that a public institution must support, it follows that the priority is the wellbeing of the future person, not her/his actual capacity to decide. Given that neither the foetus nor the blastocyst has any autonomy to decide, it does not make sense to differentiate between germ line and somatic interventions. At least, as far

as it is clear that neither of those future people could be detached from their own experience to decide in the future to reject or not the intervention.

But, if it is true that future autonomy is linked to wellbeing, the actual capacity to decide is defeated here. So, why be more concerned about the autonomy of future generations than the present one? Since the decision about future life is a difficult problem to deal with, there are disagreements about the way to solve it. In order to overcome that issue, some authors appeal to the distinction between Therapy and Enhancement, that is, the aim of the intervention. Let us consider this approach.

### 2.3. The purpose problem

The distinction between therapy and enhancement is an institutional approach to health care. Thus, it is likely to adopt a CHEPD point of view in order to justify some restrictions on individual choice. The point is that the distinction is committed to individual welfare in so far health care is a matter of equal opportunity.

As we have seen, the wellbeing priority according to WCHE makes sense in a liberal society following a Kantian “upbringing”. In other words, this would be the case in a principle of justice-based society. Norman Daniels has developed a theory of health care rooted in Rawls’ principle of equal opportunity. According to Daniels (1985), health care by promoting and curing disease promotes equal opportunity.

The Daniels’ moral right to health care is not an obstacle to the improvements that any individual could reach from the common starting point. Top sportspersons, musicians and the most prestigious universities in the world could serve as good examples from both the personal dependent (CHEPD) and independent (CHEPI) point of view. In other words, once the social structure is committed to promoting equal opportunity, individual health improvement is a personal business.

After all, CHE could be positive from both points of view:

- In the former (CHEPD) can be viewed as positive because individual excellence does not decrease the equal starting point and it may increase the social resources to be distributed among the members of society. In other words, due to any increase in CHEPD, the CHEPD standard also increases.
- In the latter, because the aim is to bring back people into the CHEPI normal standard.

However it would be a mistake to affirm that Daniel's right to health supports all cases of CHE. After all, the importance placed on preventing and curing disease aims to keep people in the range of "normal competitors", which is not the case of superhuman enhancement.

### 2.3.1. Greetings comrades

Since the distinction between therapy and enhancement is an institutional approach to health care, it mainly lies in a relation between a positive concept of health and its opposite. For example it is between a functional excellence criterion and the contrary, defined as disease, disability and so on.

Some authors have raised the distinction by characterizing therapy as a medical treatment or intervention, aiming to cure a disease or to restore "something that was wrong" (Bostrom-Roache, 2008: 120). The aim of the enhancement however, would be, "to increase the potential of human capacities keeping it within the normal range" (Perez Triviño, 2011) or "without any limit at all" (Bostrom-Roache, 2008: 120). Other authors have made even an ulterior distinction. Tännsjö differentiates between enhancements that keep abilities within the normal range of humans, which he calls "positive interventions", namely, increasing the human IQ from 100 to 110, and the true enhancements, which consist of increasing the IQ from 100 to 200 (Tännsjö, 2009:316).

Since in all of these cases therapy is taken as the correct criterion for public institution, the problem arises with enhancements, both the positive and the "true" ones. This is, after all, the worry that underlies the document developed by the President's Council on Bioethics, titled, not coincidentally, "Beyond Therapy".

Stated in this way, the distinction between therapy and enhancement is relevant in some contexts. It is useful, for example, to know what we owe to others. That is, to ensure people's accessibility to it through health insurance systems, public or private (Rodrigues, 2012: 321). In short, since the distinction is an institutional approach, it is useful for the institutional design of our political societies.

But, moving from the political context to the individual one, the distinction is helpful too, because it welcomes the possession of these capacities. What aim could it have if not to restore "something that was wrong"? But, since the therapy aim is restorative, the problem arises with the boundary line, which must not be crossed.

An institutional boundary line is, for example, the one that the WHO has raised to define the range of normal health:

A state of complete physical, mental and social wellbeing and not merely the absence of disease.”

But according to this definition, both restorative interventions and positive enhancement interventions are plausible. Therapy is not contrary to enhancement; they are at worst complementary.

Consider the following example. Two people are to have a treatment to improve their cognitive abilities. The first one aims to restore some lost or damaged abilities; the second one has all abilities intact. Suppose also that the success of such intervention would result in an equal improvement for both of these capabilities. If we take the IQ referred to by Tännsjö, the result of the therapeutic intervention, the positive one, could increase the IQ from 100 to 110. But the same result is seen with the enhancement intervention, which could increase the IQ from 110 to 121. What arguments could support the rejection of the enhancement intervention if we are willing to accept the therapy one?

The distinction between therapy and enhancement is relevant as well, as Sandel has pointed out, to evaluate the inner danger of genetic manipulation at the embryo stage. However, all things considered, the distinction seems to be immune to the objection of the manipulation of natural lottery. Certainly, as Sandel recognizes, gene therapy must be welcomed in some cases that allow treating some cognitive diseases, such as Alzheimer’s disease (Sandel, 2007: 15). So it is not the manipulation of genetic lottery that is reprehensible, but the aims that it pursues. After all, as Sandel himself acknowledges, “morally speaking the difference is less relevant than it seems” (Idem, 61). Certainly, taking seriously the intangibility of the natural lottery means that genetic inheritance is something that only we should be in charge of.

But even without considering the possibility of manipulating the genetic lottery, it is certainly different to support interventions with therapeutic or “positive” purposes, than those that seek to obtain superhuman levels in cognitive capacities. Nevertheless, the problem that arises here is a complex one. We are managing here a problem that concerns both the subjects and the object of practical reason. Thus, we should know which part of the problem is priority, i.e., if we are more concerned about the intervention in a hazardous natural legality or about the political one. In other words, if we are worried about the modification of the inheritance or if we want to ensure an equal starting point to which the criterion of justice in a liberal society is committed. If the former is irrelevant in therapy cases, it also must

be irrelevant in the enhancement ones. If the latter is the important, then the distinction between therapy and enhancement becomes irrelevant: the problem is not the purpose of the intervention, but to ensure equal access to the resources that provide social benefits.

### **2.3.2. The Unbearable lightness of Being**

Although the distinction between therapy and enhancement is useful in some contexts, it is clearly affected by a problem of imprecision of language. There is a vagueness of the distinction that makes its contours blurred. As occurs with the spotlight metaphor, some cases provide full clarity, as for instance the cases of therapy, while others are of full darkness, for example cases of genetic manipulation to achieve superhuman capacities. Nevertheless there are half-light cases too. These cases of penumbra are problematic since dealing with them requires making a decision. Since the problem is complex, the decision is without doubt hard.

The point is that, even with its complexity, the hardest of decision is not found in the intervention purpose: in the criteria used to distinguish between therapy and enhancement; but in its scope. The difficulty is to define the standard of human normality. Unfortunately there is not a set standard of this. As Boorse has pointed out:

not only is there no fixed goal of perfect health to advance towards, but there is also no unique direction of advance (1977, 570).

Thus, our opinion about individual autonomy and welfare, as well as the most appropriate institutional design to fulfil them, is still unsteady.

Some controversial moral concepts are certainly involved in this problem, for example individual good life and welfare. Defining the scope of the problem requires going into a moral discussion between opposite conceptions. But even if the decision is in some cases discretionary, it does not mean that there is not agreement on several points. In other words, these are controversial concepts but they are not radically confused since there are at least some paradigmatic cases of application.

## **3. The respect for the unknown and the Human hubris**

To conclude, I would like to briefly mention two arguments that have been brought up as being opposed to the enhancement interventions by Sandel and Habermas in similar terms. In Sandel's opinion,

If the genetic revolution erodes our appreciation for the gifted character of human powers and achievements, it will transform three key features of our moral landscape –humility, responsibility, and solidarity (Sandel, 2007: 86).

This argument could be plausible from a religious point of view that is, obviously, is out of my business. However, both Sandel and Habermas argue that it could be also understood from a secular point of view.

As this objection runs contrary to a WCHE way of thinking, from both the personal (WCHEPD) and the impersonal (WCHEPI) point of view, what is wrong with the use of the technology is that increases individual welfare must be justified. To defend the optimal degree of every evolutionary stage is tantamount to ignoring the scientific progress (the optic papilla or the blind point of human eye could be useful to exemplify this mistake). It is difficult to understand why we should refrain from being able to improve our quality of life in order to preserve the evolutionary stage. Just from a liberal point of view there are authors, as Rawls and Dworkin, who support the opposite view.

To assess properly the dangers that triumph of mastery over mystery can lead to humanity, we must begin by pointing out what is required and we are prone to supporting CHE and biotech. In my opinion, this is not a lack of respect by the unknown. On the contrary, we are concerned here with what we know yet and because of that it is possible to manipulate. After all, if we begin by recognizing that imperfection is a trait of evolution that maybe we are ready to deal with, this implies acknowledging as well a human limit.

## Conclusions

I began considering the functional approach to cognitive human enhancement (FCHE). As I have pointed out, this is not satisfactory approach due to the Funes objection.

Since the welfarist approach (WCHE) overcomes this objection, this approach is the one I have followed, in order to evaluate the pros and cons of CHE.

Using within the WCHE framework, I have analysed three main objections or problems about CHE, namely: the Sorcerer apprentice, the irreversibility, and the purpose problems.

None of these objections, in my opinion, present serious arguments to CHE for:

- The objections related to current scientific knowledge do not truly represent any challenges to CHE. They are actually generic cautions about risks associated with new treatments and biotech. Consequently, they do not provide convincing arguments in favour of preserving the status quo.
- The purpose objection is inconsistent, because the arguments to support therapy are also valid for CHE. They are actually purposefully independent.
- All of these objections prioritize autonomy, welfare and individual decision to some extent,. They are, therefore, redundant within WCHE.

After that, I dealt the distinction between therapy and enhancement. We have seen that although it can be useful in some contexts, it is affected by a very serious problem of vagueness that lies in penumbra the criterion of normality. That is, this distinction ca does not clarify the red line which must not be crossed.

Finally I briefly reviewed Sandel's objections about "the respect of the unknown" and "human pride", and the Habermas' objection in terms of "vital authorship". As I said, these objections probably make sense from a religious point of view, but they are inconsistent with the grounds of a liberal society.

Truly, the debate about CHE in particular and Human Enhancement in general is challenging our conception about both the subjects and the object of practical reason. Nevertheless, if this debate is redefined from a WCHE point of view, it will allow us to explore what the limits that we can rightly impose in a liberal society. This is a hard problem to deal with. But, as I have mentioned above, the difficulty of the problem requires taking out of it some flawed problems.

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