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Ethical Considerations about Neuro-Enhancement

…. I will not be discussing enhancement in general but will focus on neuroenhancement in particular – the type of enhancement that is aimed at the improvement of mental properties by pharmacological means.

1. Problem

We all want to improve in some way or another. Every single one of us has at least one feature or characteristic that he or she would like to change. One of us may want to be able to deal with his mother-in-law in a more civil and relaxed fashion; another may want to be capable of concentrating for longer period of time at work, while somebody else may just want to be able to rely on his own memory. Many of us simply want to be able to accept ourselves for who we are, but even here we strive for improvement, and we do this by trying to develop this very characteristic: self-acceptance. We are all aware of the fact that such processes of self-improvement require a lot of time and dedication.

What if pills were available that could bring about such changes? What if we could solve all the problems that we have been working on for years by simply taking a pill? This is precisely the promise of neuroenhancement. Antidepressants like Prozac to alleviate mood, Ritalin to increase concentration, modafinil as kind of a pick-me-up - a number of drugs is already being used today to improve mental functions. But, in these cases, it is obviously not a matter of treating illness but rather a matter of optimizing mental functions in healthy individuals. The *dream* of becoming whatever and however you want to be seems to have come even closer to being a reality. Today's drugs are still not that effective and some even have very unpleasant side effects. But what if other drugs were available in the future with a better risk-benefit profile? In Germany, for example, 80% of school kids and university students state that they would use such drugs if they didn't have any negative side effects.

In this context, many ethical questions arise: Should we *really* do this? Do we *really* want to? Is it desirable? Is it ill-advised? Or maybe even unethical? Neuroenhancement will not remain without serious consequences for both individuals and society. – Whether we like it or not, the possibility of pharmacological self-improvement has arrived. We just have to face the question of how to deal with it.

There is an obvious objection here: Striving for self-improvement is nothing new. Human beings have been trying to change their personality and develop new skills for a long time now. And this hasn't only been done with the help of chemicals but also with mental methods. Even today, mentally working on oneself – I call it *self-formation* – is a widespread practice. Bestseller lists and bookstores are filled to the brim with a wide variety of self-help books, countless seminars on personality development continue to draw large audiences, and in numerous Internet forums, people discuss their efforts of self-formation.

Self-formation aims to improve cognitive as well as emotional properties. It ranges from simple concentration exercises to meditation techniques up to the hardly specifiable by name, yet frequently practiced and well-known effort to change our behavior, for example, to overcome shyness, have more patience, learn to keep our composure, and the like.

When looking for an ethical answer to neuroenhancment, we can't get around asking this question: How does neuroenhancement relate to these traditional, mental, non-pharmacological methods of self-formation? How are they similar? How are they different? And most importantly, are the differences ethically relevant?

In fact, this comparison plays a central role in the ethical debate. The previous approaches, however, have one big disadvantage: they are all extremely superficial. Some claim that neuroenhancement is nothing fundamentally new so that it seems harmless. Others immediately point out the alleged differences in order to emphasize how different and problematic neuroenhancement actually is. Both critics and supporters of neuroenhancement take one central point for granted that, however, lies deep in the theoretical darkness.

2. Task

Recent debates on neuroenhancement are lacking a central point of comparison. There is no *precise* classification of the phenomenon neuroenhancement in the general human pursuit of self-improvement. Therefore, the more extensive and basic ethical question cannot be posed, nor can it be appropriately answered: *How* should we better ourselves? Not: *To what extent* do we want to better ourselves, what goals do we want to pursue? - for the goals of neuroenhancement are indeed well known and for the most part unproblematic - but rather: *by what means* should we and do we want to better ourselves? For this, we need to know how the various methods of self-improvement are really designed and how they should be ethically evaluated. Therefore, we need to make a thorough comparison between neuroenhancement and

self-formation from an ethical point of view. My central question is: How should the various methods used by human beings to enhance their mental properties be ethically assessed?

What this comparison looks like and the kind of results it yields I will try to show very briefly in the following.

3. Results

Now, we need to clarify the following how neuroenhancement relates to self-formation. At first we have to analyze the similarities and differences of neuroenhancement and self-formation in a strictly descriptive way.

On the on hand, neuroenhancement and self-formation have the following three things in common:

1. the goal of improving healthy mental properties
2. the nature of the act, which means that it is not a natural process that takes place on its own.
3. and a minimal amount of autonomy, provided that I am only dealing with the kind of neuroenhancement for which the individual can decide freely.

On the other hand, there are four differences between self-formation and neuroenhancement:

1. (degree of) **Self-control:** Self-formation requires more self-control because one cannot rely on familiar behaviors and habitual mental processes but must actively reform them. With the help of neuroenhancement, however, that is no longer necessary. Even though making the decision to undergo a change is active, the change itself is experienced passively.

2. (degree of) **Self-attention:** Self-formation requires that more attention is directed toward the individual. I have to divert my attention from the objects of my action to my own mental properties. This isn't required in neuroenhancement, either. I don't have to observe my own actions in order to make the neurophysiological effect of the pills possible.

3. The duration of the changing process: Mental properties are permanent in nature and resist change. Processes of self-formation therefore take a long time, require repeated practice and progress slowly. Neuroenhancement is, in contrast, very fast.

4. These three differences lead to the fourth: **the effort**: Self-formation is arduous / exhausting. One has to produce mental activity for an extended period of time. Neuroenhancement is, in contrast, easy. It is quick and can be accomplished without mental activity.

That's it as far as the descriptive comparison is concerned. The crucial question is, however: Are these differences *ethically relevant* as well? The answer is: Yes, the different characteristics of self-formation and neuroenhancement are very important. First, in a direct way: effort / Strenuousness and slowness have no value as such. On the contrary, we appreciate it very much when we can shorten long processes and avoid a lot of effort. This appreciation of efficiency is the base of our everyday use of technology.

This is not surprising, because the efficiency is what makes neuroenhancement so appealing for many people. But we can also expect *indirect* effects. And they are more remarkable. For there are indirect effects on some important self-relations, experiences and skills that are largely considered to be components of a good life. These effects, however, can only be seen if we look more closely. I'd like to provide four examples for these effects: self-awareness, self-realization, self-efficacy and coherence of life.

1. **Self-awareness:** Knowing and understanding ourselves well is something that we all appreciate. Self-formation has the tendency to contribute to a deeper self-awareness. This is due to its specific characteristics, especially the high degree of self-attention. If I want to shape myself, I am dependent upon directing my attention to my personality traits. I can only change them by repeatedly taking them into consideration and observing how they express themselves. Self-awareness does not necessarily arise with self-formation, but there is a high probability that it will. Unlike neuroenhancement: Because of the lack of the need for increased self-attention, the tendency of increased self-awareness is lacking. Of course, you *can* invest self-attention in neuroenhancement, but its structure doesn't require it.
2. **Self-realization** (self-fulfillment)**:** I consider this to be the realization of desires that are really important for us and that we accept even after thorough considerations. I'm not talking about wishing a piece of cake but about the subjectively important, "authentic" and long-term wishes or desires. In this respect, we see self-realization as a part of the good life. Not every wish fulfillment can be described as self-realization. Not only do many of our wishes not even mean all that much to us, but we also tend to pursue short-lived, ill-considered wishes that we later drop after closer inspection. – Both neuroenhancement and self-formation can be forms of self-realization. The *probability*, however, varies. In self-formation, it's high. Accepting long-term activity and effort is for the person (concerned) in definite need of justification. And the repeated practice forces you to reflect upon the desire to improve yourself to the point that it is unlikely that you

will continue to pursue wishes in the long run, that you actually don't want to pursue. Neuroenhancement on the other hand works differently, it's fast and easy to use, without internally forcing you to reflect. Consequently, it can easily happen that you follow ill-considered ideas, short-term dissatisfaction, social pressure or fast-moving trends, thus only seemingly pursuing self-realization. To some extent, self-formation has an internal (built-in) "safety mechanism". Neuroenhancement doesn't.

3. **Self-efficacy:** An important requirement for experiencing life successfully is the experience of being able to accomplish something yourself. The experience of self-efficacy can be achieved through various actions. But, self-formation makes an especially potentiated form of self-efficacy possible because not only are successes of an individual action brought about but also the abilities underlying the action. It's the happiness of being able to change yourself of your own volition. This creates self-confidence, an experience that neuroenhancement does not allow. The change is experienced passively. Although it is indeed possible to gain self-efficacy from successful actions that result from an enhanced mental property, neuroenhancement cannot provide this higher form of self-efficacy, the experience of being able to eliminate weaknesses from your own personality, and the self-confidence that results from it.

4. The fourth aspect is something what I call **"Coherence of life"**: A good life is characterized by having meaning. On the one hand, this means that it has a structure and order and is therefore narratable. On the other hand, a meaningful life focuses on what we consider to be good and desirable. We could say that a good life is consistent, coherent or follows some sort of "life plan". Self-formation can be considered as a life plan. A self-formation project creates order in our various desires and gears our individual lives toward something that means a lot to us. Neuroenhancement can't do that. Again, this is due to its specific structure. Neuroenhancement works quickly, isn't a plan that needs to be gradually realized and may bring structure to certain phases in life or even to your entire life. It can´t provide the orderly and meaningful function of self-formation. Speaking about personal development, the german poet Rilke has created in one poem the sentence: "I live my life in growing circles / orbits" – this experience is far from neuroenhancement.

As we can see, there is a number of significant differences between neuroenhancement and self-formation that are of great ethical importance. Self-formation makes experiences and

self-relations possible, which we consider to be essential to a good human life. Neuroenhancement doesn't do that. And, while neuroenhancement alone can come up with the *instrumental* value of efficiency, self-formation has a strong tendency to certain self-relations and experiences that are *in and of themselves* valuable to us. These differences are not due to the early stage of development in today's drugs but rather to the principle structures that are typical for neuroenhancement on the hand and self-formation on the other.

Whereas in neuroenhancement we're dealing with a mechanistic self-relation that is oriented for the short-term and aimed at a rather isolated improvement, self-formation, in contrast, tends toward a growth-oriented, biographically embedded, so to speak: "organic" dealing with oneself that is geared toward a sustainable development of oneself. In this respect self-formation and neuroenhancement are complete opposites.

Remarkably, those characteristics that seem to be advantageous at first glance – such as quickness and effortlessness – are *precisely* the ones that, upon closer inspection, turn out to be disadvantageous. And vice versa: The characteristics that seem to be disadvantageous in self-formation are in fact significant factors for a good life. – From an ethical point of view, the relation between neuroenhancement and self-formation is therefore new and more clearly defined. The bottom line is: self-formation is the better method for self-improvement.

4. Summary

Now, how do we proceed from a normative point of view? Is neuroenhancement offensive, objectionable, immoral? Do we have the right to ban it? No. There are so many arguments against it, but a moral verdict can't be deduced from them – at least not from the arguments I have presented. As long as people autonomously decide in favor of neuroenhancement and in doing so do not infringe upon the rights of others, we cannot rightfully ban it. After all, we allow other behaviors that we consider as foolish.

Is this result too modest, too poor? No, this is just how it looks from one perspective. In ethical questions, we are used to limiting ourselves to the *moral* dimension, to rights and obligations, to commandments and prohibitions. But, that's just one side of ethics. The other is the good life/human flourishing. Judgments in this field may not be universal, but they are not therefore less important. *On the contrary.* Even if we adhere to different ideas of a good life, there are several things that are widely recognized as fundamental elements of a good life. Self-realization, self-understanding, self-efficacy, etc. are such elements. This means: Based upon the insights we have gained, we can't derive a *moral* judgment against neuroenhance-

ment, but we can *advise* against it with good reason. "With good reason" means: in terms of the enlightened self-interest of the individuals who are confronted with the decision of acting in favor of or against neuroenhancement.