

# NUSSBAUM'S CAPABILITY APPROACH AND THE STRUCTURAL ANALOGY OF EDUCATIONAL AND GENETIC ENHANCEMENT

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## ABSTRACT

Several thinkers, e.g. Niemeyer (2015), stressed that Nussbaum's capability approach (=CA) has a problem due to its paternalistic implications. This evaluation is correct. It ought to be even stronger, as I will show in this article, as the CA not only has paternalistic but even eugenic implications, which is why it should be rejected for any social order in which the norm of negative freedom is highly valued. I proceed as follows. Firstly, I explain that there is a structural analogy between classical education and genetic enhancement, or educational and genetic enhancements, which in turn suggest an analogous moral assessment. This thesis is directed against Habermas' line of thought, which rejects this parallelization (Habermas 2001, 91), whereby he in turn argues against a thesis of Robertson (Robertson 1994, 167). Afterwards I apply this insight to Nussbaum's CA, from which the aforementioned morally problematic implications result.

## KEYWORDS

bioethics, enhancement, capability approach, eugenics

## THE PARALLELIZATION OF GENETIC AND EDUCATIONAL IMPROVEMENT

Firstly, I focus on the question of the relationship between educational and genetic enhancement. I proceed as follows: Firstly, I will clarify the concepts of genetic and educational enhancement; then I will present Habermas' central theses and some other possible theses that are directed against the parallelization of the two processes. Finally, I will address a central challenge arising from the thesis presented. The most important theses of Habermas are the following:

- 1 Genetic modifications are irreversible, whereas this assessment does not apply to educational changes;
- 2 Educational changes are reversible, whereas this assessment does not apply to genetic modifications;
- 3 Genetic modifications limit a person's autonomy, whereas this assessment does not apply to educational enhancements;
- 4 In the context of genetic enhancements, the children concerned are objectified by their parents, which is morally unacceptable, i.e. they are used merely as a means to an end. This is not the case in the context of educational enhancements;
- 5 Genetic modifications destroy the symmetrical relationship between free and equal people, whereas in the context of classical education such destruction does not occur;
- 6 Genetic modifications, which are morally unacceptable, can be clearly distinguished from therapeutic measures with regard to hereditary factors, which in turn are morally unproblematic. Educational enhancements are usually morally legitimate;
- 7 Another point not raised by Habermas, but often raised against my position, is that educational enhancements are necessary but not genetic modifications.

By arguing against the various reasons against parallelizing genetic and educational enhancements, I cannot show that genetic enhancements can be morally good. To give reasons why genetic enhancements can be morally acceptable, I would have to explain that educational enhancements can be positive. By arguing that educational and genetic enhancements can be morally good, it is not yet clear to which processes this evaluation actually applies. For this I would have to deal with different concepts of enhancements and analyse which concepts are morally acceptable, if they exist, and which are not. An affirmation of the parallelization of genetic and educational enhancements does not imply that genetic enhancements are necessarily morally good. Just as any educational enhancement must not be morally acceptable, any genetic enhancement must not be morally acceptable.

## CONCEPTS OF GENETIC AND EDUCATIONAL ENHANCEMENTS

With regard to my use of the term, I will fall back on those that have established themselves as the usual ones in technical discussions. Here education is

the transmission of culture to children controlled by parents (cf. Eames 1977, 194; Olson 2003, 173; Ottaway, 1999, 9), whereby the concept of culture is linked to the concept of good. Genetic enhancement is the parent-directed process of promoting a child's genetic make-up. In this context I will not be concerned with the moral issue of evaluating genetic modifications which apply only to oneself, as they are morally less problematic.

If I also refer to the concept of good in the context of culture, this does not imply that education only takes place when a certain ideal of good is communicated, which is why this view can apply to different historical and cultural contexts.

Habermas employs the concept "liberal eugenics", whereas I discuss "genetic enhancements", since the extensions of the two concepts are identical. Enhancement alone is a broader term than that of eugenics, as it may also include other human changes, such as the following: 1. pharmacological enhancement by taking drugs; 2. cyborg enhancement by combining the human with a mechanical or digital machine; 3. morphological enhancement by using plastic surgery. Like liberal eugenics, however, in contrast to state eugenics, enhancement is a liberal position, which implies that it is not the state or an institution that may decide in favour of the process, but only the parents or the person directly affected.

In this context, the concept of parenthood is a wider one, which is also independent of the concept of marriage. Of course, one can distinguish between cultural and biological parents, and furthermore the concept of parenthood should be independent of that of a heterosexual couple, since it is quite conceivable that one day a totipotent cell can be created from the genetic make-up of several same-sex persons.

Various distinctions with regard to genetic enhancements are possible, such as those between positive and negative, ex ante and ex post, radical and moderate or autonomous and heteronomous, although I am only discussing heteronomous genetic enhancements. I merely wished to have mentioned the other options (Sorgner 2006 & 2009).

The possibility of parallelizing the two processes can be taken into account, since in both cases parents make decisions regarding the development of their children, which happens at a time when the child is not yet in a position to make appropriate decisions for itself. In the case of genetic modifications, there is a spectrum of choices ranging from genetic roulette to targeted genetic enhancements. In the case of education, however, there is a range of possibilities from the Kaspar Hauser model to that of supporting parental guidance.

Which of the above variants usually has more desirable consequences will not be discussed here.

One difference between educational and genetic enhancements, which could directly speak against a parallelisation of the two processes, is that education has something to do with the mind, genetic improvement with the body. This objection was not mentioned by Habermas, but can easily be refuted. 1. It implies a rigid distinction between body and mind, which is implausible; 2. It is incorrect, since education also includes physical education; 3. Intelligence can be promoted by both processes and has something to do with the body and the mind; 4. I argue that educational and genetic processes are structurally analogous processes and therefore do not assume that they are identical. The proof of the structural analogy is sufficient for the processes to be subject to an analogous moral evaluation capability.

In the following I will critically analyse central theses that speak against the parallelization of classical education and genetic enhancement.

1 Habermas claims: Genetic changes are irreversible, whereas this assessment does not apply to educational changes. (Habermas 2001, 90, 110).

This claim is implausible, if not false. Since deafness does not have to be understood as a defect but can be seen as otherness, it has come to the following case in the USA. A lesbian couple, whereby both women are deaf, has consciously decided for a deaf child, and it was also made possible for them to have one. (Agar 2004, 12-14) However, the deliberately induced property of deafness does not have to be irreversible. In certain cases of deafness, it is already possible today to have an implant inserted with the help of which hearing is possible, e.g. a cochlear implant. In this case, only the phenotype is changed and not the genotype, this example alone shows that specific genetic properties can be changed.

It must also be emphasised that it is possible to change a person's genetic composition by referring to somatic gene therapies. With the help of siRNA therapy developed over the last decade, genes can be switched off. (Morris 2004, 1289-1292) In 2006, Andrew Fire and Craig Mello were awarded the Nobel Prize in Medicine for the discovery of RNA mechanisms. Based on the available empirical findings, it is theoretically clear that genetic changes can be reversible. The following process is theoretically possible: 1. an embryo with brown eyes is selected with the help of PID; 2. as an adult, the person concerned determines that he/she does not like his/her own eye colour; 3. he/she asks doctors for siRNA therapy, with the help of which the genes responsible

for the eye colour are changed; 4. the change in the genes leads to a change in his/her own eye colour.

Another option of modifying an existing genetic make-up is to employ a gene editing technique like CRISPR-Cas 9 or maybe even a germ line therapy, which does not yet work. However, it is not necessary to refer to fictional examples to demonstrate the possibility of reversibility of a genetic composition. On May 1, 2007, an operation was performed at the UCL clinic to treat a hereditary eye disease that slowly leads to blindness with the help of gene therapy. The deterioration of vision was stopped, vision even improved slightly and, most importantly, no side effects were observed. (Maguire et al. 2008, 2240-2248) This was a case of gene therapy. However, if the genetic composition can be altered for therapeutic purposes, this is also possible for non-therapeutic purposes if the problematic distinction between therapeutic and non-therapeutic objectives is to be maintained. The examples mentioned suggest that properties that have been altered by genetic enhancement may be reversible.

2 Habermas claims: Educational changes are reversible, whereas this assessment does not apply to genetic modifications. (Habermas 2001, 110-111).

This assessment is implausible, Aristotle would also reply, and it must be approved in this respect. A basic stable attitude, a *hexis*, can be acquired through repetition (EN 1103a). One becomes brave if one acts regularly in a courageous manner. You become a good guitarist, if you frequently play guitar. One becomes moderate when one practices moderation. In *Nicomachean Ethics*, he explains that by regularly repeating a certain course of action, the character trait in question is formed as a *hexis*, as a basic stable attitude in character. Once you have developed such a stable attitude, it can be impossible to get rid of it. (EN III 7, 1114a19-21) According to Aristotle, it remains an irreversible part of its own character, as Buddensiek has also stated. (Buddensiek 2002, 190)

This assessment by Aristotle is confirmed by some of Freud's findings. He assumes that neuroses can be prevented but cannot be cured (Malcolm 1984, 24), highlighting the particular intensity of anxiety neuroses. (Rabelhofer 2006, 38)

Since Freud some time has passed and a multitude of scientific investigations have been carried out. Nevertheless, it is still assumed that psychological illnesses caused by environmental influences may be incurable. (Beese 2004, 20) By giving reasons that show that pathological conditions caused by envi-

ronmental influences can be irreversible, the statement underlines that analogous processes can also happen through educational measures.

Medical studies have shown that post-traumatic stress disorders can not only lead to chronic states but also to persistent personality disorders (Rentrop et al (Ed.) 2009, 373). They can be caused by extraordinary threats or disasters. It has also been shown that only 10-15% of patients with obsessive-compulsive disorders can be cured and in most cases these become chronic (Rentrop et al (Ed.) 2009, 368). Another disorder that can be referred to in this context is the emotionally unstable (borderline) personality disorder, which is often caused by events and actions that occurred during childhood, such as violence or child abuse. In many cases, this disorder is chronic (Rentrop et al (Ed.) 2009, 459).

The fact that environmental influences can cause permanent and irreversible conditions receives intuitive support through further considerations. Once you learn to play the piano, tie your shoes or ride a bicycle, you may no longer be able to completely unlearn this ability. Even clearer is the case of the ability to speak the mother tongue. After learning them, it may be impossible to forget it again. These considerations make it clear that Habermas is also wrong about his second thesis: Education can also have irreversible consequences.

3 Habermas claims: Genetic changes limit a person's autonomy, whereas this assessment does not apply to educational improvements. (Habermas 2001, 45)

To support his thesis, Habermas develops the distinction between what is made and what has become (Habermas 2001, 83), which goes back to Aristotle (physis; techne). According to Aristotle, education falls into the realm of practice. He would probably regard genetic modifications as poiesis. Habermas further explains that only those who have grown alone can have full autonomy.

However, the distinction between what has been done and what has become is too rigid to be maintained in a plausible way. Do we not already make offspring when we buy sperm from Nobel Prize winners in sperm banks, as is possible in the USA? It was found that sperm from beautiful and athletic students are more popular than those from Nobel Prize winners (Agar 2004, 1-2; Sandel 2007, 74). If heterosexual couples have unprotected sex, then they know exactly when the possible child could be born. Isn't this also a way of making children? To argue that only genetic modification produces made children is implausible. Even a child growing up in an extremely religious environment can be shaped irreversibly. Perhaps Habermas would reject this variant, since a growing autonomous subject can accept and reject from his viewpoint what is in his own interest, whereby he stresses the importance of the rationally moti-

vated independent subject (Habermas 2001, 99). At this point it may become clear that he upholds a problematic anthropology in which the special human status is emphasized in an implausible way. Although he has emphasized that he presents a "soft" naturalism, he assumes that the action starts from the subject, who ascribes to himself an ability (Habermas 2004, 877), but rejects the reduction of the subject to "neuronal events" (Habermas 2004, 876). He maintains a special status of the subject, which cannot be analysed by means of scientific research (he upholds a non-scientific naturalism; Habermas 2004, 872).

Starting from his distinction, Habermas points out further possible consequences, e.g. that genetic modification raises the question of the limits of the human species (Habermas 2001, 45). This assessment is certainly correct, but it cannot be ruled out that the limits of being human can be exceeded by educational measures. Nietzsche has assumed that it is primarily through education that man can become a overhuman, and this possibility is currently gaining plausibility on the basis of scientific findings in the field of epigenetics. (Sorgner 2009)

Habermas further explains that people have the right to an open future, but genetic improvements would curtail this right (Habermas 2001, 105). To be autonomous, one must be the sole author of one's own life. However, this assessment is inaccurate, as the possibilities of the person concerned have not been restricted but exclusively changed. All humans have genetic make-up. The question is what they depend on. Usually it is chance, genetic roulette. In the case of genetic enhancement, it is a parental decision. Parents therefore do not limit their children's ability to make decisions, but only change the preconditions. Even a genetically non-modified child has hereditary factors that influence the human strengths and weaknesses of the person concerned.

4 In the context of genetic enhancements, the children concerned are exploited by their parents, which is morally unacceptable (Habermas 2001, 94). This is not the case in the context of educational improvements.

Habermas emphasizes that it could be bad for us to imagine that our being was changed in an instrumental way before our birth (Habermas 2001, 94), which in turn could have a significant effect on our self-image. That this assessment is implausible becomes clear when one considers the consequences of perceiving educational and genetic enhancements as parallel procedures. Then none of these events would be better or worse than the other. Furthermore, it can be doubted that any process of mere instrumentalisation has to be morally reprehensible. Hoerster has convincingly stated that a distinction must be made between morally legitimate and morally illegitimate forms of instru-

mentalisation. (Hoerster 2002, 15) Another problem associated with the ban on instrumentalisation is that it presupposes an implausible ontology. In the context of the prohibition of instrumentalisation, it is said that it is morally reprehensible to treat a subject like an object, which in turn presupposes the Kantian distinction of subjects and objects. Subjects are beings with an empirically inaccessible reason, whereby objects (animals, plants, stones) do not possess such reason. Such an ontology originating from a special Christian tradition is highly implausible according to Darwin, Nietzsche and Freud. Together with such ontology, however, the necessary validity of the ban on instrumentalisation also becomes problematic. Elsewhere I have analysed this question in more detail (Sorgner 2015, 39-41).

5 Habermas claims: "Genetic improvement destroys the symmetrical relationship between free and equal people, whereas such destruction does not occur in the context of educational improvement.

Habermas assumes that genetic enhancements, unlike educational improvements, destroy the symmetrical relationship between free and equal people. (Habermas 2001, 45) By refuting the aforementioned theses I have put forward reasons against this assertion, since the possibilities for changing the described conditions are different from those described by Habermas. However, there are other reasons that speak against Habermas' claim. Even if one assumes that de facto asymmetrical relationships between people can exist, this does not yet mean that this necessarily has normative consequences, too. The normative ideal of equality is logically independent of a factual inequality.

Furthermore, it could be argued that asymmetric conditions already exist and must exist, since even classical education can cause irreversible conditions. As a parent, you are in an asymmetrical relationship with your children. This does not imply the need to abandon equality as a moral ideal, nor does it imply serious moral challenges.

In addition, we can question Habermas' concept of equality. If equality can only exist between identical entities and we assume a strong concept of identity, as Leibniz does, then we can conclude that within the empirical world there can be no identity between two distinct entities. If Habermas assumes normative equality, then even in the case of a destruction of the symmetrical relationship between humans by genetic enhancement, there is no compelling reason to give it up as a normative ideal.

6 Habermas claims: A genetic enhancement that should be morally rejected can be clearly distinguished from therapeutic measures with re-

gard to hereditary factors, which in turn can be morally legitimate. Educational improvements are usually morally legitimate.

In contrast to genetic enhancements, Habermas assumes that gene therapies are morally legitimate. (Habermas 2001, 109) He argues that the autonomy of the person affected is not undermined in the therapy, whereas this is the case in the improvement, since he is critical of many general-purpose goods. (Habermas 2001, 92) He upholds health and a longer life as such values, and he assumes that parental custody of these goods is consistent with the autonomy of the child. (Habermas 2001, 48) 1. On the basis of this basic attitude he would also have to affirm genetic enhancements aimed at prolonging life. Isn't this variant a prime example of genetic enhancement?; 2. Gene diagnosis is a prerequisite for therapy. However, the diagnosis already implies changing or destroying genes, which he considers morally problematic. A process affirmed by him logically presupposes a process negated by him, which is highly problematic (Koechy 2006, 75-77); 3. The distinction between therapy and improvement is a highly problematic one, since it presupposes a concept of disease : 1. If one has an objective concept of disease, one needs a description of a natural person. Since illness is a normatively charged term, it is highly problematic to obtain such a description; 2. Even a subjective concept of illness has problematic implications. For example, you can have a malignant tumour without feeling ill; 3. The concept of disease has changed dramatically in history. This is particularly evident in the concept of mental illnesses and Foucault's analysis of them.

7 The following is often objected to the parallelization of classical education and genetic enhancement that I uphold: Educational improvements are necessary, but this does not apply to genetic enhancements.

The parallelization of classical education and genetic enhancement with regard to the development of hereditary properties is underlined by findings in the field of epigenetics. These suggest that hereditary characteristics can be altered by means of education. For a long time, biologists assumed that education could not be responsible for the development of hereditary traits, since the inherited traits depend exclusively on parental genes and cannot be altered by education, which is why Lamarckism seemed implausible. This assessment must be revised on the basis of research findings in the field of epigenetics. However, it should also be emphasised what two leading researchers in this field have to say: "the study of epigenetics and epigenetic inheritance systems (EISs) is young and hard evidence is sparse, but there are some very telling indications that it may be very important". (Japlonka/Lamb 2005, 248)

However, it is obvious that, in addition to the genetic code, the epigenetic code should also be responsible for the development of phenotypes. The epigenetic inheritance system belongs to three supragenetic systems analysed in more detail by Japlonka and Lamb, which further stress that "through the supragenetic inheritance systems, complex organisms can pass on some acquired characteristics. So Lamarckian evolution is certainly possible for them" (Japlonka/Lamb 2005, 107).

Based on numerous scientific studies, it is likely that stress "education" drugs, medicines or diets can cause epigenetic changes, which in turn can be responsible for changing cell structures (Japlonka/Lamb 2005, 121) and switching genes on and off (Japlonka/Lamb 2005, 117). In some cases, even the possibility cannot be excluded that such changes could lead to an improved type of evolution. Japlonka and Lamb emphasize the following:

"The point is that epigenetic variants exist, and are known to show typical Mendelian patterns of inheritance. They therefore need to be studied. If there is heredity in the epigenetic dimension, then there is evolution, too". (Japlonka/Lamb 2005, 359)

They also point out that "the transfer of epigenetic information from one generation to the next has been found, and that in theory it can lead to evolutionary change" (Japlonka/Lamb 2005, 153). Their reason for adopting this position is in part that "new epigenetic marks might be induced in both somatic and germ-line cells" (Japlonka/Lamb 2005, 145).

From Japlonka's and Lamb's point of view, a mother's diet can also cause such changes and entail the consequences mentioned (2005, 144) Non-genetic enhancements, both through education and by means of diets, medicines or drugs, can result in hereditary traits, which is made clear by recent epigenetic research. These considerations make it clear that genetic as well as educational changes may lead to hereditary characteristics, which further underscores the parallelization of the two processes. Furthermore, it becomes clear that through epigenetic processes education has always been a form of genetic education. Educational improvement processes cannot be thought of independently of genetic modification processes. Therefore, if it is argued that educational improvement is necessary but not genetic improvement, then epigenetic processes should be taken into account that educational changes can always imply genetic modifications and that these two processes cannot be thought of independently.

## CA AND THE PARALLELIZATION OF GENETIC AND EDUCATIONAL ENHANCEMENTS

The plausibility check of the parallelisation of educational and genetic improvement has not even addressed the fundamental challenges, e.g. the question of the concept of good, which should be fundamental at the political or individual level for the different types of genetic enhancement. A central question in this regard was set out in a report published in 2009. In the following passage, the complexity and relevance of the matter becomes clear, which is why I quote it completely. It is the basis for studies that could follow these:

"Some have argued at least with regard to education that children possess a further right beyond health and safety. Article 26 of the United Nations Universal Declaration of Human Rights states that everyone has the right to education and that education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. These rights in turn suggest duties for parents and society. If education is a kind of social enhancement, this lays the groundwork for claiming that other kinds of enhancements might be the right of children and correlative duties of parents and children. Will, for example, children of the future be expected to receive enhancements of their bodies that lead to 'the full development of human personality'? Exactly what might be required will depend on the facts of the situation, of course. As we have said, context matters. But what this account shows is that there is at least a possible line of argument that supports not only the right of children to be enhanced, but also also a duty of their parents or society to do this" (Allhoff et al. 2009, 32).

The implications of this question further increase when a special concept of good is considered, which is considered valid and which has legal implications in a state. Here, I focus on Nussbaum's CA.

The central challenge associated with Nussbaum's position is that it does not represent context-dependent ethics, but an essentialist one (Nussbaum 1999, 176-226). In her CA, she addresses conditions that are necessary to promote the good life everywhere and always for both men and women. In contrast to Catholic ideas of a good life or ancient virtue ethics, which usually represent a strong and detailed position of good, she argues for a strong and vague conception of good - here I refer to Nussbaum's terminology (Nussbaum 1999, 28). This universally valid concept of good established by her should also have legal implications. She also considers it necessary that liberal theories also give priority to a certain concept of good, as we must know what we distribute and have the certainty that this regulation is good. (Walnut 1999, 33). This

means that the universally valid basic human abilities represented here should also be implemented in a legally binding manner.

If it is indeed true that educational and genetic enhancements are structural analogous processes, which also have to be treated morally analogously, then in connection with a correspondingly formulated essentialist theory of good, a governmental duty for genetic enhancements can be the consequence. However, such an obligation can no longer be called genetic enhancement, since the enhancement term is used exclusively in a liberal context. If, however, the state constitutionally upholds the need to value goods which can be promoted by means of genetic modifications, then it is a question of establishing eugenic measures. Just as a liberal state can also make education legally compulsory, as is the case in Germany, this could also be the case with regard to genetic measures, if it is true that educational and genetic changes are structurally analogous processes, for which I have argued here.

It may be argued at this point that it is unlikely that biotechnological enhancements will become legally binding measures. Anyone who thinks this way forgets that vaccination is also a biotechnological enhancement technique. Vaccinations bring about properties that were not previously present. In many countries worldwide vaccinations are still compulsory (e.g. in France), as it used to be the case in Germany until the beginning of the 1980s. This is not to plead against vaccination. After all, vaccinations are usually extremely helpful and reliable processes. My sole concern here is to argue against the state forcing people in a totalitarian and paternalistic way to resort to techniques that they may not want to employ. Such an approach unduly undermines the achievement of the norm of negative freedom.

Such morally reprehensible implications could also be the case in the legal implementation and anchoring of Nussbaum's CA. Their conception includes the following two assessments. According to her essentialist concept of goodness, a good life includes the ability to live a human life of normal length, not to die prematurely or to die before life is so reduced that it is no longer worth living. The ability to enjoy good health is also an essential part of the concept she advocates. (Walnut 1999, 200).

If it should become apparent that the presence of certain hereditary factors is associated with the probability of a certain life span, then these assessments could mean, for example, that children with a gene, with an average life span that is 10 years below normal, could be legally obliged to be genetically treated. If their statement continued to imply that only a normal average life span is associated with a good life, then such an obligation would also apply to those

children who, due to their genes, have a life span 15 years above the average, so that they would have a shorter life span after genetic treatment than before.

However, their assessments do not only concern the life span but also the question of health, whereby it would be necessary to clarify it more precisely. For example, if it includes people who are deaf or bipolar due to a genetic condition, then there would arise a legal obligation for these people to undergo genetic treatment.

These examples illustrate the extent of paternalistic interventions that would occur, if Nussbaum's CA were implemented at the legal level. The question now is whether we consider it desirable to live in such a paternalistic, eugenic state. I would only want to flee such a state, which in my opinion could no longer be called liberal, because it does not take adequate account of the wonderful achievement of the norm of negative freedom.

## CONCLUSION

In this article I take a critical look at Nussbaum's CA and argue that Niemeyer's critical assessment is an accurate one. I concentrate on selected implications of Nussbaum's theory of goodness. My analysis makes it clear that her CA not only has a paternalism problem, but also potentially leads to morally reprehensible eugenic state. In the first part of these considerations I argue against Habermas that educational and genetic modification are structurally analogous processes. In the second part I show that Nussbaum's essentialist concept of good affirms a state eugenics which, in my opinion, cannot be reconciled with the achievement of the norm of negative freedom on which a liberal social order is based. For this reason I claim that Nussbaum's CA does not only affirm a dangerous type of paternalism, but it even has eugenic implications, which ought to be avoided in a liberal state.

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