

1. Introduction

This handout is based on pp.35-52 in chapter 2 (“Enhancement and Human Development”) of Allen Buchanan’s 2011 book *Beyond Humanity? The Ethics of Biomedical Enhancement*. This chapter focuses on the four aims. We will consider the following three:

- (i) to articulate two false assumptions in the enhancement debate,
- (ii) to show that deliberate forms of enhancement are not new
- (iii) to put the risks of enhancement in perspective by articulating the potential benefits of ETs.¹

2. Two Framing Assumptions

Let’s focus on two assumptions underlying the anti-enhancement (bio-conservative) view.

The **Personal Goods / Broad Harms Assumption** contends that the good that would come from biomedical technologies would be *personal goods* (e.g. enable rich socialites to pick the color of their children’s hair) whereas the risks and evils associated with these technologies are *social* (e.g. loss of human reproduction, increase in injustice, decrease in evolutionary fitness, damaging to our moral characters).

Buchanan argues that this assumption is false. Some enhancements have the potential to bring “broad social benefits that cannot be reduced to the gains for those who are enhanced” (p.36). This is because some enhancements have the potential lead to large-scale increase in human well-being and this is largely due to the fact that certain technologies will only benefit the individual if others are also enhanced.

The **Market Goods Assumption** contends that access to emerging enhancement technologies will be market goods so as to avoid the negative stigma and rights violations associated with a State-run eugenics (the government trying to improve the genetic quality of the human population by mandating genetic enhancements or the use of enhancement technologies).

Buchanan also argues that this assumption is false. Some enhancements (e.g. education, public health) are pursued by governments to build a stronger nation, to promote social welfare, or economic growth.

3. Three Arguments for Biomedical Enhancement Exceptionalism

One goal of this chapter is to argue that ETs do not introduce problems of a totally different kind. Rather, the problems they introduce are similar in nature to ways we have tried to enhance humans in the past. This position is known as Biomedical Enhancement Exceptionalism (BEE).

Biomedical Enhancement Exceptionalism: The view that biomedical enhancement is *fundamentally* different from other means that humans have historically used to enhance themselves.

¹ The fourth is to make a provisional case for the enhancement enterprise.

Buchanan thinks that BEE is false. One of the key claims he makes is that there have been countless enhancements throughout society, and these are not any different in kind from the emerging biotechnologies of today. On pp. 38-39 Buchanan identifies a number of historical instances of great enhancements that played a pivotal role in human development.

Enhancement	Benefits for Human Development
Literacy and Numeracy	
Agriculture	
Legal Systems	

3.1. Argument for BEE #1: Irreversibility

Let's consider several arguments in support of BEE. That is, there is something wrong with ET's because there is something **distinctly problematic** about modifying human beings due to the fact that it will usher in (i) large-scale, irreversible risks, (ii) increases in distributive injustice (large scale disparities), or (iii) the deterioration of our natural ability or evolutionary fitness.

ARGUMENT FROM IRREVERSIBILITY

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- P1** Non-biomedical enhancements are *external* to us (they are to the environment) while biomedical enhancements are *internal* (they are in us).
 - P1.25** For the first time, we have certain technologies that allow us to change our biology (enhance what is *internal* to us).
 - P1.50** Biomedical technologies will allow for *large scale changes* whereas the changes brought on by non-biomedical technologies are *small scale*.
 - P1.75** Biomedical technologies will allow for *irreversible changes* whereas non-biomedical technologies allow for *reversible changes*.
 - P2** Biomedical enhancements due to their internality, large scale, and irreversibility are enhancements and are unacceptable.
 - P3** Non-biomedical enhancements (e.g. development of literacy, computers, cars, agriculture, etc.) due to their *externality*, small scale, and *reversibility* either are *not enhancements* (they don't enhance *us*) or are acceptable enhancements.
 - C** Therefore, the pursuit of enhancement should be avoided.

O1: **P2** and **P3** are speculative. The moral permissibility of external changes but impermissibility of internal changes is unargued for.

O2: **P2** and **P3** are false. External technologies that are morally neutral have had *large effects* on individuals and society (e.g. literacy, the development of agriculture, computers) whereas some emerging enhancement technologies would likely have minimal effect.

O3: **P1.25** is false. Non-biomedical technologies influence our biology, e.g. literacy changes our brain, dairy farming in the Middle East led to the evolution of lactose tolerance (see p.41). “*the more accurate statement is that for the first time they [human beings] are becoming capable of changing their biology deliberately, in accordance with what they value, on the basis of scientific knowledge, rather than haphazardly*”

O4: **P2** and **P3** assume (see **P1.75**) that non-biomedical enhancements are *reversible* whereas biomedical enhancements are irreversible (there is no going back once you’ve altered your genes). But, this assumption is false, there is no *reasonable* going back from being literate to non-literate (and the same is true for society as a whole). Furthermore, given certain advances in biotechnology, it may be possible to reverse certain enhancements, e.g. computer-brain interfaces.

3.2. Argument for BEE #2: Distributive Justice

Distributive justice is a branch of justice dealing with how benefits and burdens should be distributed throughout society.

ARGUMENT FROM DISTRIBUTIVE JUSTICE

- P1** The development and dissemination of technologies that allow for biomedical enhancements will increase distributive injustices, i.e. they will be available *only* to the rich and allow them become smarter, stronger, and better off.
- P2** We should avoid *any* practice that would lead to large-scale disparities.
- C** Therefore, the pursuit of enhancement should be avoided.

O1: There is nothing *distinctively problematic* about emerging biotechnologies. The development of a huge number of non-biomedical technologies, including *literacy*, led to some individuals having an advantage over others and can thus widen gaps in the distribution of resources.

CDQ: Buchanan argues that there is nothing unique about biomedical technologies in particular that would allow for one group to dominate over another. That is, they are like every other technology. This response assumes that technologies are *neutral* and so they can be used for both *good* or *evil*. Do you agree with this assumption or is there something inherent problematic about certain technologies? If yes, then is there something problematic about biomedical technologies in particular?

3.3. Argument for BEE #3: Atrophy of Capacities

ARGUMENT FROM ATROPHY OF NATURAL ABILITIES

- P1** The development and dissemination of technologies that allow for biomedical enhancements will lead to our natural abilities (e.g. our ability to remember or reason) to atrophy.
- P1*** No need to *learn* how to read when you can download it. No need to interact with teachers to learn anything when you can download it into your brain.

- P2 We ought to preserve these natural abilities.
- C Therefore, the pursuit of enhancement should be avoided.

O1: There is nothing *distinctively problematic* about emerging biotechnologies. The development of literacy and the computer led to a decay in certain memory skills, the development of calculators led to a decreased need to know how to multiply / add large numbers, etc.

CDQ: Can you think of any other historical enhancements that have caused other capacities to decline? In these examples, do you think that there was an important loss?

3.5. Argument against BEE

Buchanan’s argument in response to these arguments then is essentially this: *there is nothing distinctively problematic about emerging biomedical technologies*. They, just like the technologies of the past, have the potential to create irreversible changes, large-scale effects, increase inequalities, and decrease certain “natural” skills while promoting other capacities.

ARGUMENT FROM BIOMEDICAL NON-EXCEPTIONALISM

- P1 Emerging enhancement technologies and the non-biomedical technologies of the past are similar in a variety of ways.
- P2 If we are against emerging enhancement technologies, then we ought to be against previous enhancement technologies, e.g. literacy, LASIK surgery, prostheses, computers.
- P3 We don’t think there is anything wrong with previous enhancement technologies.
- C Therefore, we should not be against emerging enhancement technologies, i.e. the enhancement enterprise.

CDQ: Critics of enhancement say that ETs create a new kind of risk unlike technologies we have employed in the past. Buchanan, by contrast, argues that ETs do not create problems of a new kind. If they do create problems, they are similar to problems we have faced with other technologies. Consider some of the emerging technologies aimed at enhancing human beings. Do these technologies create new problems? If so, what are they? If not, do they create problems *of a greater degree* than those we have previously used?

4. Technology and Increases in Production and Well-Being

A **third** goal of Buchanan is to put some of the risks associated with ETs in perspective. He thinks that one way to do this is to consider what *positive benefit* there is in employing ETs.

One positive effect ETs introduce is that they **increase productivity**. Let’s define “productivity” as follows: “how good we are at using existing resources to create things we value” (p.44). Increasing productivity does not always lead to increased well-being (happiness in the broad sense) because

- (i) what we value is not always good for us and
- (ii) things we value at a given time are not always what we expected (or what we continue to value at a later date).

CDQ1: Can you think of something that you at a certain time was valuable but later turned out to be not so valuable?

CDQ2: What types of things do you think you could continue to value *throughout your life*?

CDQ3: What types of things do you think that we all value?

It seems reasonable to say that *increased productivity* is proportional to *the potentiality to increase well-being*. The better we are at using our resources to create things we value seems to entail that we are in a better position to get things that are truly valuable to us, i.e. things that really do increase our well-being.

Increases in productivity are often the result of *technological advances*. For example, if we want to transport x to A, various technologies (cars, rail lines, planes) allow us to do it in a more efficient fashion. More generally, Buchanan contends that

in economically developed societies there is less serious mental illness, less disease, less premature death, less disability, and less violence toward and discrimination against women, and more opportunity for people to develop their talents and pursue their own conception of the good life (*Beyond Humanity?* p.45).

ARGUMENT FROM INCREASED PRODUCTIVITY TO INCREASED WELL-BEING

- P1** Increased productivity is proportional to the potentiality to increase well-being
- P2** The more productive a society is the greater potential it has to increase well-being.
- P3** Increases in productivity have generally been the result of technology
- IC** Biomedical (enhancement) technologies can increase productivity.
- C** Therefore, the pursuit of biomedical technologies for the purpose of human enhancement should be permissible provided there is some reasonable prospect that they would improve well-being.

Notice however that the pursuit of enhancement technologies is confined to technologies that would reasonably **improve production and the potential for well-being**. Some examples include the following:

1. technologies that improve *cognitive* abilities
2. technologies that improve *longevity* (the duration of lives)
3. technologies that compress disability and morbidity at the end of life
4. technologies that fight disease and promote a healthy immune system (see p.45)

This leads us to formulate a constraint on what types of technologies should be developed:

Constraint #1: the pursuit of enhancement technologies is confined to technologies that would reasonably *improve production and the potential for well-being*.

CDQ1: What other technologies do you think would increase productivity and likely increase well-being? What are some enhancements that wouldn't *and thereby would not be supported by the above argument*?

In arguing for (1)-(4), Buchanan claims that there is reason to pursue ETs that increase cognition, extend longevity, decrease disability, and decrease the effects of disease because enhancements of these types in the past have increased productivity and overall well-being (see pp.45-48).

A second *constraint* that Buchanan proposes is that enhancement technologies have *network effects*. A *network effect* is one where the value of an enhancement is proportional to the number of individuals

who have that enhancement, i.e. the more people who have the enhancement, the better; the fewer people who have the people, the worse the enhancement. Some non-biomedical technologies that have network effects are: social media sites (e.g. Facebook), video games (e.g. online play), certain information or research sites (e.g. Wikipedia). In addition, some non-biomedical technologies are beneficial even to those that *don't* use them, e.g. immunization

Constraint #2: the pursuit of enhancement technologies is confined to technologies that have network effects

CDQ1: what are some examples (even if only speculative) of enhancement technologies that might have network effects?

5. Rethinking the Framing Assumptions.

Based upon what he has said thus far, Buchanan now thinks that we can see why the framing assumptions he discussed at the outset are false. This also sheds light on the affect that enhancements would have on distributive justice.

Recall that the **Personal Goods / Broad Harms Assumption** contends that the good that would come from biomedical technologies would be *personal goods* (e.g. enable rich socialites to pick the color of their children's hair) whereas the risks and evils associated with these technologies are *social* (e.g. loss of human reproduction, increase in injustice, decrease in evolutionary fitness, damaging to our moral characters). But, Buchanan claims that this assumption is *false*: (i) certain technologies increase production and thereby the potential to foster well-being (happiness) and (ii) certain technologies have network effects and so encourage *everyone to join and benefit even those that don't use them*. It is thus false to say that emerging enhancement technologies will only yield *personal goods* and generate *social risks* for we see that they may produce *social goods*.

Recall also that the **Market Goods Assumption** contends that access to emerging enhancement technologies will be *market goods* so as to avoid the negative stigma and rights violations associated with a State-run eugenics (the government trying to improve the genetic quality of the human population by mandating genetic enhancements or the use of enhancement technologies). This creates the worry that only the rich will benefit from enhancement technologies and it will cause the gap between the rich and poor to widen even further.

Buchanan argues that this assumption is also *false*: similar to how the State has taken an interest in improving its citizens through education, basic health care, immunization, literacy, and social welfare programs, the State is also likely to *encourage* individuals to use enhancement technologies for (i) it will increase national security and (ii) it will increase the productivity / prosperity of the state, and (iii) even those that do not *opt in* will benefit from others using those technologies (network effects).