

# Science, Technology and Humanity: Opportunities and Risks

Enhancements and human rights, the right to change  
self and others

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# Desire to be enhanced is natural

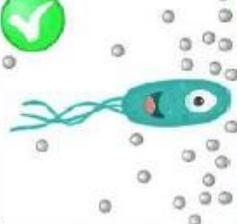
- Humans have always been adapting (to) their environments. We improve:
  - our minds through education, disciplined thinking, and meditation
  - our bodies with a sound diet and physical exercise
  - we train with weapons and techniques to defend ourselves
- In the course of evolution, the biological characteristics of the human species have been changing. Living conditions and the norm of a healthy life as well.



# Definition of human enhancement (Allhoff et al., 2009)

- **Broad definition:** any activity by which we improve our bodies, minds, or abilities—things we do to enhance our well-being.
  - In this sense, reading a book, studying languages, eating vegetables, doing homework, and exercising may count as enhancing ourselves too.
- **Narrow definition:** boosting our capabilities *beyond the species-typical level or statistically normal range of functioning* for an individual
  - Creating Homo Superior (Allhoff et al., 2009)
  - Homo Deus (Harari, 2017) – permanent happiness and immortality
  - Life 3.0 (Tegmark, 2017) – ability to change one's own body / hardware

# Life 3.0 (Tegmark, 2017)

Can it design its hardware?			 
Can it design its software?		 	 
Can it survive & replicate?	 	 	 
	Life 1.0 (simple biological)	Life 2.0 (cultural)	Life 3.0 (technological)

# Some examples

- brain modifications to increase memory or reasoning capabilities
- alterations to biochemistry to increase resilience to the environment or the creation of new capacities.
- living for much longer
- alterations to our appearance to make us more attractive or more aesthetically distinct



# Enhancement vs Therapy

- **Therapies** intervene to **correct a problem** with a cognitive or perceptual system/subsystem
- **Enhancements** intervene to **improve a cognitive or perceptual ability**, and perhaps even **provide a new capacity**.
- But:
  - Health is not always adequately described as correcting physiological deficiencies (bio-medical markers).
  - Broader socio-cultural conception of *well-being* (bio-cultural markers).

# From therapy to enhancement

- natural trajectory of medical practice leads towards a culture of human enhancements, as humans are rationally predisposed towards living long, healthy lives for as long as possible.
- It can allow people to make themselves “better than well”.
  - laser eye surgery can yield better than perfect, high definition vision
  - cognitive enhancers, such as Ritalin, help students study for exams, or Modafinil, which is used to treat narcolepsy, but which may be used to keep people alert for longer in periods of extreme tiredness
  - prosthetic legs may provide a disabled person with mobility or allow them to run faster than the biological counterpart



# Typology of enhancements by means (Dubber et al., 2020, Ch. 16)

- Brain implants involving AI technologies
  - Neural prosthetics and brain chips for depression, post-traumatic stress disorder, and Alzheimer's disease
- Pharmaceutical drugs
  - e.g. Metformin for life extension, or Adderall for attentional enhancement
- External cognitive artifacts
  - the internet, navigation systems, cell phones, diaries, and brain-computer interface devices
- Biological enhancements
  - nanotechnology and genetics
- Conventional enhancements
  - e.g., education and psychological interventions
- Mind-uploading
  - migration of a mind from a brain to a computer

# Typology of enhancements by effects (Miah, 2011)

1. Enhancing Health-Related Resilience (e.g. fluoridation of tap water or inoculations)
2. Enhancing Lifestyle Functional Capacities (e.g. breast enhancements, height enhancement)
3. Enhancements Beyond Species-Typical Functioning
  - a) Extending Human Capabilities (e. g. height enhancement)
  - b) Engineering New Kinds of Human Function (e. g. changing color, flight)
    - i. Within the realm of known biological possibility (e. g. flight capability)
    - ii. Outside of known biological possibility (e. g. capacity to live in non-gravitational environments)

# “Captain cyborg”



- Kevin Warwick – Coventry University
- Project Cyborg
  1. RFID transmitter implanted beneath his skin, used to control doors, lights, heaters, and other devices in his proximity (1998).
  2. A microelectrode array sensor interfaced directly into Warwick's nervous system via the median nerve in his left wrist – used for remote control of a robotic arm via internet (2002).
  3. A simpler array was implanted into the arm of Warwick's wife, with the ultimate aim of creating a form of telepathy or empathy over huge distances via Internet. The first direct and purely electronic communication between the nervous systems of two humans (2004).
  4. Connected ultrasonic sensors on a baseball cap and experienced a form of extrasensory input (2005).

# Some concerns about enhancements

- Your opinion?

# Some concerns about enhancements (Dubber et al., 2020, Ch. 16)

- available only for the wealthiest members of society, creating a rich-poor intellectual gap
- socially mandated microchips become the norm, so that schools, governments, or employers require certain enhancements, and even use them to mine data and track people
- such technologies could lead to abuse in the hands of an authoritarian dictatorship or unregulated capitalist economy
- radical brain enhancements would rob us of our humanity because our very limitations and vulnerabilities are part of what makes us human in the first place. Such limitations and vulnerabilities might, for instance, preserve certain traits that ought to be preserved, like humility

# Concerns about enhancements by sphere of influence (Miah, 2011)

- In which sphere (individual, professional or societal) the ethical dilemma resides and what kind of action is required.
  - An *individual* ethical issue relates directly to the interest of the subject who is undertaking the enhancement themselves.
  - The *professional concerns* category relates to the individual or institution that is facilitating the enhancement, whereby there may be formal guidelines over ethical conduct.
  - The *societal concerns* relate to the broad interests of society, which may be frustrated by the adoption of human enhancement.

# Concerns about enhancements by topic (Allhoff et al., 2009)

- Freedom and Autonomy
- Fairness and Equity
- Societal Disruption
- Human Dignity and Good Life
- Rights and Obligations
- Policy and Law

# Freedom and Autonomy

- Morphological Freedom
  - favours autonomy, arguing further that it should be a **human right to enhance one's biology**, rather than something that the state should aim to restrict.
  - Relates to the issue of fairness and equity and is contextually dependent.
- Safety standards and informed decisions
  - Reasonable standards of safety and cost-benefit analyses must be undertaken, but it is for the client to decide which level of risk they choose to accept.
  - In the absence of certainty, individual autonomy is elevated as the guiding principle.

# Freedom and Autonomy

- Right to not be enhanced
  - Society's need to reduce the burden of health care may lead to coercive tactics to ensure people exercise and this may be regarded as unethical.
    - Thus, the development of health credits in the United States, which are connected to the amount of physical activity an individual undertakes, may be seen as an unreasonable imposition on an individual's life.
    - Denying treatment on the basis of not having led a lifestyle that deserves medical assistance—as in the case of decisions over rationing and smoking—may infringe the individual's right to health care without prejudice.
  - It may be undesirable to permit the state to require an individual to undertake a memory enhancement in order to pursue some national interest. E.g., judicial hearings with forced memory enhancements in order to ascertain the truth about a crime.

# Freedom and Autonomy

- Right to not be enhanced in military personnel
  - The ethics of war may permit the use of such enhancement technologies for gaining an advantage over the adversary.
  - Governments requiring soldiers to undertake such modifications may undermine the soldier's personal autonomy.
  - But, military personnel operate within a context where there is an acceptance of diminished autonomy—following orders etc.
  - The use of drugs that would otherwise be unethical to give to a healthy subject may be life-saving in a military context.

# Fairness and equity

- Fairness: having an advantage over others also happens with more familiar methods like education, exercise or a good diet. Undertaking these pursuits may lead to much greater capabilities than one would otherwise have and may also lead to an advantage over those who choose not to indulge in such practices.

# Fairness and equity

- Argument “means matter”
  - Challenging the value of human enhancement on the ground that the *means* by which people achieve their goals in life matter.
  - If one adopts a technological shortcut to achieve some goal, then this may undermine its value.
  - For instance, if one is a mountaineer and decides to reach the summit of the mountain by using a helicopter rather than one’s body, then not only has the value of the achievement been undermined, but we might not even claim that a mountain has been climbed at all.
- An enhancement can be fair in one context but unfair in another (prosthetic legs for a (non)athlete, alertness drugs for a chess player vs a soldier)

# Fairness and equity

- Accessibility of enhancements to the rich only amplifies social inequality.
- Private health care system is often criticised to be detrimental to the common good.
- However, making people better than well and ensuring future generations are more resistant to illness, would, in the long term, ease the social burden of health care.
  - Society cannot afford *not* to enhance humanity.
  - On this basis, human enhancements would be offered to all people on a similar basis to how national health care is offered presently, following principles of distributive justice.

# Societal disruption

- Human enhancement has critical implications for **how society is organized**. Healthier people will mean the prospect of **longer lives**, which in turn will mean a growing ageing population.
- Impact on social provisions and the broader economic infrastructure of a society, requiring people and governments to revise their expectations about the **duration of the working life**, the **economics of pension funds**, and the **provision of health insurance**.
- Demands on social systems that may bring about their collapse, if they are not rethought.

# Societal disruption

- Zero-sum game
  - In a society where all people undertake similar enhancements, the overall benefit is nullified. Instead, the long-term consequence of this permissive enhancement culture is simply **a shift in what is biologically normal.**
  - In an economy where having exceptional talents or capabilities is required in order to flourish, the eventual outcome of a society where everyone has access to enhancements is akin to a zero-sum game, where there is little change to the overall, relative fortunes that people enjoy.
  - Not all enhancements are like this (e.g. intelligence)

# Human Dignity and Good Life

- Authentic life
  - E.g. in relation to psychopharmacological substances, such as Prozac, it is argued that certain uses may be morally undesirable forms of enhancement, as they transform a person into somebody else and that this disconnection is undesirable.
- Related to self-identity:
  - a societal concern is that changing humanity by human enhancement would undermine some essential quality of our human identity that we would wish to preserve.

# Human Dignity and Good Life

- The principle of preserving an “open future” (problem of irreversibility)
  - one may hold different aspirations in the future that are disabled by the enhancement.
- Long-term benefits vs short-term gains
  - if a human enhancement were to promote success early in life, but lead to serious disability later, then one may caution against its use.

# Rights and obligations

- Should enhanced humans have more rights or obligations vs non-enhanced ones?
- Is there an obligation in some circumstance to be enhanced? (e.g. vaccinations, pilot enhancements to increase flight safety, super-soldiers)
- Should children be enhanced?

# Personal identity and radical enhancement

- Fear that radical enhancement can involve the elimination of any of what philosophers call “essential properties”—the things that make you.
- Preservation of identity is important, otherwise the enhancement is practically a suicide (intentionally causing yourself to cease to exist).
- Identity is not the same thing as consciousness!
  - whether or not your identity survives cognitive enhancement (whether that future being is really *you*) is distinct from the question of whether or not consciousness survives
- What is a self or person?
- What allows a self to continue existing over time?

# Approaches to personal identity (Dubber et al., 2020)

- Brain-based materialism:
  - You are essentially the material that you are made out of (i.e., your body and brain)
- Dualist theories:
  - Views that explain personal identity in terms of the persistence of an immaterial or nonphysical substance (such as a soul or Cartesian ego)
- Psychological theories:
  - Views that explain personal identity in terms of psychological properties, such as experiences, beliefs, memories, and so forth.
- The No Self View:
  - The self is an illusion. The “I” is a grammatical fiction (Nietzsche). There is no survival because there is no person (Buddha).

# Brain-based materialism

- enhancements should not change one's material substrate or the person would cease to exist

# Dualist theories

- decision to enhance would seem to depend on whether you have justification for believing that your enhanced brain and body would retain your soul or immaterial mind

# The No Self View

- survival isn't an issue. We should make enhancement decisions solely based on other considerations, such as maximizing the happiness of future sentient beings and minimizing suffering.

# Psychological theories

- Identity survives by inheriting mental features such as memories, beliefs, personality dispositions and so on. This means that if we change our memories or personality in radical ways by enhancing the brain, the continuity could be broken.
- Psychology continuity
  - Personhood is a passive phenomenon constituted by relations of psychological connectedness
- Narrative view
  - Personal identity additionally requires the relationship of narrative connectedness. Subjects are able to actively interpret and construct their own identities by choosing which narrative explanation best suits their life.

# Psychological theories



- Do memory enhancing artifacts (such a visual lifelog) bolster or diminish personhood?
- Alzheimer's patients are gradually losing their biological memory. Such a patient might use an external artifact to help her preserve psychological continuity
- External artifacts can also give subjects access to digital memories that are more fine-grained / vivid than those stored in biological memory.
- Some devices (Facebook) can organize/edit our memories for us to form a story.
- Narrative connectedness involves the execution of intellectually autonomous acts. By undermining intellectual autonomy, certain memory enhancing external artifacts may also undermine personhood on the narrative view.

# Authenticity concerns

- a brain chip that enables to consciously access many more memories may incentivize people to not be mindful and to instead “live in the past.”
- Radical enhancements may augment psychological suffering. While neural prosthetics which raise our IQ levels or make us faster thinkers have obvious benefits, they may also function to amplify the “cognitive noise” which is responsible for the majority of psychological suffering within our species.

# References

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