Is Transhumanism a Helpful Answer to Contemporary Bioethical Challenges?

Ethics Grand Rounds
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Fereidoun M. Esfandiary (1930-2000) = FM-2030

- "Around 2010 the world will be at a new orbit in history. […]
- Life expectancy will be indefinite.
- Disease and disability will nonexist.
- Death will be rare and accidental–but not permanent.
- We will continuously jettison our obsolescence and grow younger." (1981)

Introduction

- Multiple ethical questions
- Diverse ethical resources
  - Value and beliefs
  - Principles, virtues, and rights
  - The common good
- No radical questioning concerning our human nature
- We are "problem solvers"

Introduction

- Transhumanists do not share this approach.
- Technology needs to be used to transform our body and nature.

- Transition (*trans*-) toward a new *humanism*, by becoming a posthuman civilization.
- Posthumanism is the ultimate goal.

Plan

1. Definition of transhumanism & posthumanism

2. Three current developments
   I. Google
   II. Robotics
   III. Brain research

3. Theological bioethics & humanization

DEFINITION OF TRANSHUMANISM & POSTHUMANISM

Defining transhumanism

- 1980s: Extropy Institute (1980s)
- 1998: World Transhumanist Association (WTA)
  - 1999: *Journal of Evolution and Technology*
- Humanity+

- Ray Kurzweil

Defining transhumanism

- "Transhumanism is the belief that science and technology can allow us to transcend the limitations of human life."

  (Geraci, 2011)

- Transhumans stand between the human, as we experience it now, and the posthuman, that we should become.

Defining transhumanism

Posthumanists believe that

- "there is no stable, fixed human essence (i.e., 'human nature'), that the human species is no more than a 'work in progress,' and that humans can redesign themselves in order to overcome biological limitations."

(Tirosh-Samuelson, 2012)

Transhuman & posthuman goals

- Delinking sex and reproduction
- Self-destruction of the embodied human
- The eventual obsolescence of the human species
- Eliminate aging
- Enhance human intellectual, physical, and psychological capacities (self-enhancement)
- Life extended
- Death postponed
- Genetic makeup of future generations redesigned

Transhumanism & technologies

- stem-cell therapy
- gene manipulation
- selection of embryos
- drugs
- machines and other mechanical enhancements
- genetic engineering
- psychopharmacology
- anti-aging therapies
- neural interfaces
- advanced information-management tools
- memory-enhancing drugs
- wearable computers
- cognitive technique

Transhumanism

Why should we bother?

- a small movement (about 5,000 people)
- its ideas are widespread
- growth
- cultural popularity
  - science fiction and video games

Transhumanism

Why should we bother?

a) anthropological

b) epistemological

c) ethical

d) socio-cultural & political reasons

Transhumanism

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Anthropological reasons

- negative view of the human body
  - "the first prosthesis we all learn to manipulate"
- identity is based upon a neural pattern
- disability will be overcome
  - we have "a duty to provide children with the healthiest and most able bodies we can." (Hughes, 2004)

Anthropological reasons

- ***Singularity*** will make possible the transition from transhuman to posthuman
- = a hypothesized point in time when changes of such magnitude occur that everything beyond that point is altered in ways that are impossible to describe accurately
- = computers that are smarter than humans
- = superintelligence

Anthropological reasons

- In physics singularities are the centers of black holes, within which we cannot predict how physical laws will work.

- Just as physics cannot explain the singularity, we cannot explain a world in which superintelligence and posthumans exist.

Transhumanism

Why should we bother?

a) anthropological

b) **epistemological**

c) ethical

d) socio-cultural & political reasons

Epistemological approaches

First presupposition:
- technology is inherently good
- it holds the solution to all of our problems
- whatever can be done must be done
- scientific certainty (physics, chemistry, biology, logic, and mathematics)

- Unquestioned optimism
- No critical hermeneutics
- Uncertainty, realism, and limitations

Epistemological approaches

Second presupposition:

- genetics

- cybertechnologies

- quantum computing

- synthetic biology

- nanotechnologies

They allow us the freedom of manipulating the human body (malleability and fluidity)

Ray Kurzweil (1999)

The Age of Spiritual Machines:
When Computers Exceed Human Intelligence

"Up until now, our mortality was tied to the longevity of our hardware. […]

As we cross the divide to instantiate ourselves into our computational technology, our identity will be based on our evolving mind file.

We will be software, not hardware. […]

As software, our mortality will no longer be dependent on the survival of the computing circuitry. […]

Our immortality will be a matter of being sufficiently careful to make frequent backups."

Ray Kurzweil

- exponential and accelerating technological progress

- In computer science, the Moore's Law states that number of transistors on integrated circuits (i.e., on computer chips) doubles every 18 months.

Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (2005)

Epistemological approaches

In 2050:

- "accelerating innovation in genetics, robotics, and telecommunications will make possible technologies such as nanorobotic brain-machine interfaces. […]

- radical longevity,
uploading of consciousness, and
a cure for social problems like hunger and climate change" will ensue.

(Hughes, 2012)

Transhumanism

Why should we bother?

a) anthropological

b) epistemological

c) **ethical**

d) socio-cultural & political reasons

Ethical choices

- no boundaries to one's personal autonomy
- ethics of control and of technological manipulation (life & death)
- no accountability to others than the self
- individual pursuit of happiness

Ethical choices

Transhumanism is

- "an ethical and social theory about the human condition and the relationship between human nature, technology, and culture that seeks to transcend biological limitations."

(Tirosh-Samuelson, 2012)

Ethical choices

- The pursuit of human enhancement
  - Ethical and social concerns regarding:
    - equality
    - access to limited resources
    - fairness
    - economic and political implications

- A revised eugenic agenda

Transhumanism

Why should we bother?

a) anthropological

b) epistemological

c) ethical

d) socio-cultural & political reasons

Socio-cultural dimensions

- formation and transformation of the body through technology as a cultural and historical phenomenon

- literature, film, science fiction, performance and installation art, horror genre, and video games

- the cultural significance of transhumanism goes beyond the self-declared transhumanists

Political dimensions: *USA*

William Sims Bainbridge

- Sociologist
- Co-director of Human-Centered Computing at the US *National Science Foundation*

Political dimensions: *USA*

Mihail Roco

- Engineer
- Founding chair of the White House *National Science and Technology Council*'s subcommittee on Nanoscale Science, Engineering and Technology
- Senior Advisor for Nanotechnology at the *National Science Foundation*

M.C. Roco & W. Sims Bainbridge

- *Converging Technologies for Improving Human Performance: Nanotechnology, Biotechnology, Information Technology and Cognitive Science* (2003)

- *Managing Nano-Bio-Info-Cogno Innovations: Converging Technologies in Society* (2006)

Ray Kurzweil testifies to the Congress House Science Committee on the Nanotechnology Legislation - April 9, 2003

Political dimensions: *Europe*
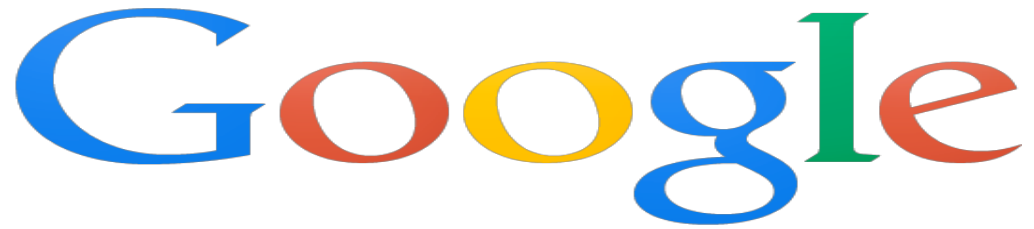
- Transhumanist ideas in academic and political debates

THREE CURRENT DEVELOPMENTS
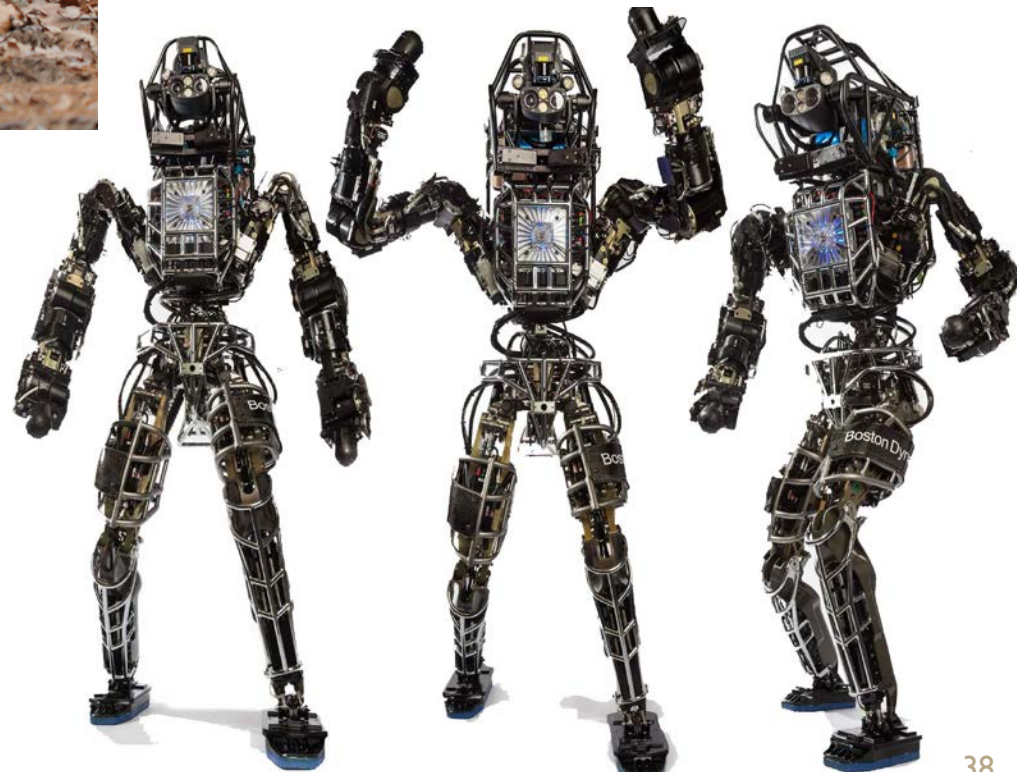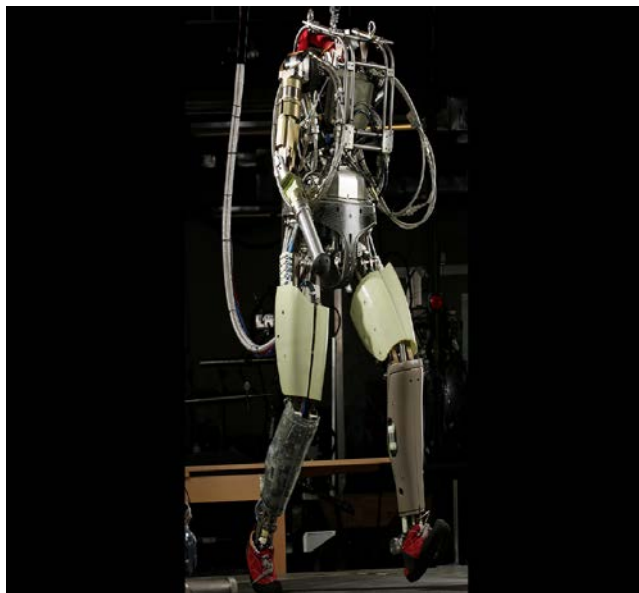
Three current developments
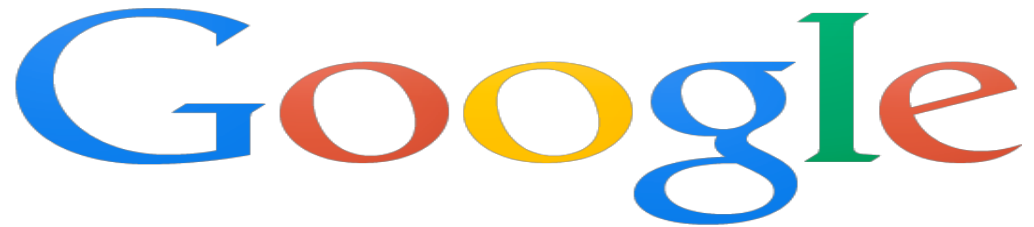
1. Google

2. Robotics

3. Brain research

Google

- ◆a diversified portfolio of companies
- ◆research in multiple areas

- December 2012:
  Ray Kurzweil, director of engineering
- March 2013:
  Geoff Hinton, expert in neural networks
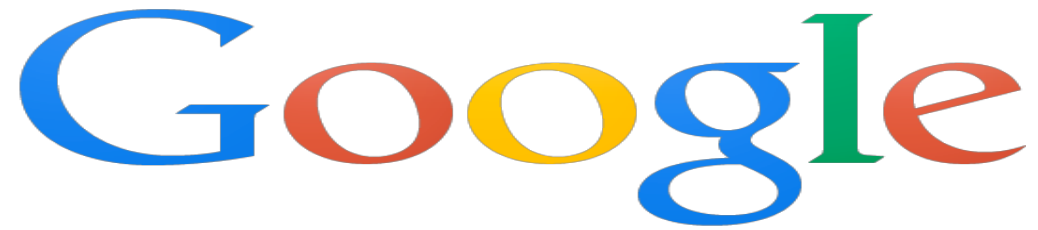- December 2013:
  Boston Dynamics

Boston Dynamics

Google

Ray Kurzweil's job description:

- "to help bring natural language understanding to Google."
- "we would like to actually have the computers read.
- We want them to read everything on the web and every page of every book, then be able to engage an intelligent dialogue with the user to be able to answer their questions."

Ray Kurzweil and Singularity University
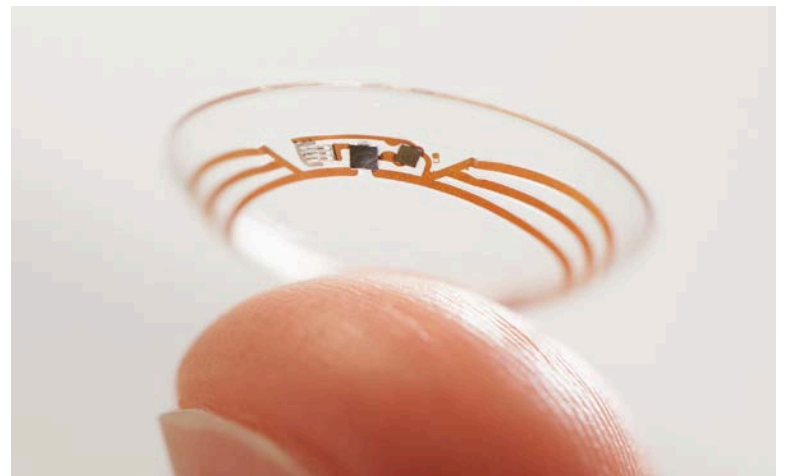
Google CALICO

- health, illness, and aging

Time, September 30, 2013

Google **X**:

- Google Contact Lens

Google's presumptions:

1. "everything is solvable if you reduce it to data and then throw enough processing power at it;"

2. "looking at medical problems through the lens of data and statistics, rather than simply attempting to bring drugs to market."

"**Medicine** is well on its way to becoming an information science:

doctors and researchers are now able to harvest and mine massive quantities of data from patients.

And Google is good, very good with large data sets."

(McCraken and Grossman, 2013)

Three current developments

1. Google

2. Robotics

3. Brain research

Robotics

Transhumanists

- "argued that cultural and technological evolution would lead inevitably to supremely intelligent machines that could take over the universe, and human beings would join this cosmic destiny by uploading their minds into machines and thereby living forever.

- Although such promises may seem fantastic, they help structure public discussion of robotics and therefore are of considerable importance, whether or not they are plausible."

(Geraci, 2010)

Defense Advance Research Projects Agency (DARPA)

DARPA and prosthetics

James F. Keenan, SJ

- "Enhancing Prosthetics for Soldiers Returning from Combat with Disabilities: Theological Ethical Considerations on the War Industry's Impact on Bioethics" (2013)

- Dual research: healing & supersoldiers

2011: The arm, which was developed at a cost of over $100 million by DARPA and Johns Hopkins University over the past five years, is controlled by a microchip in the brain.
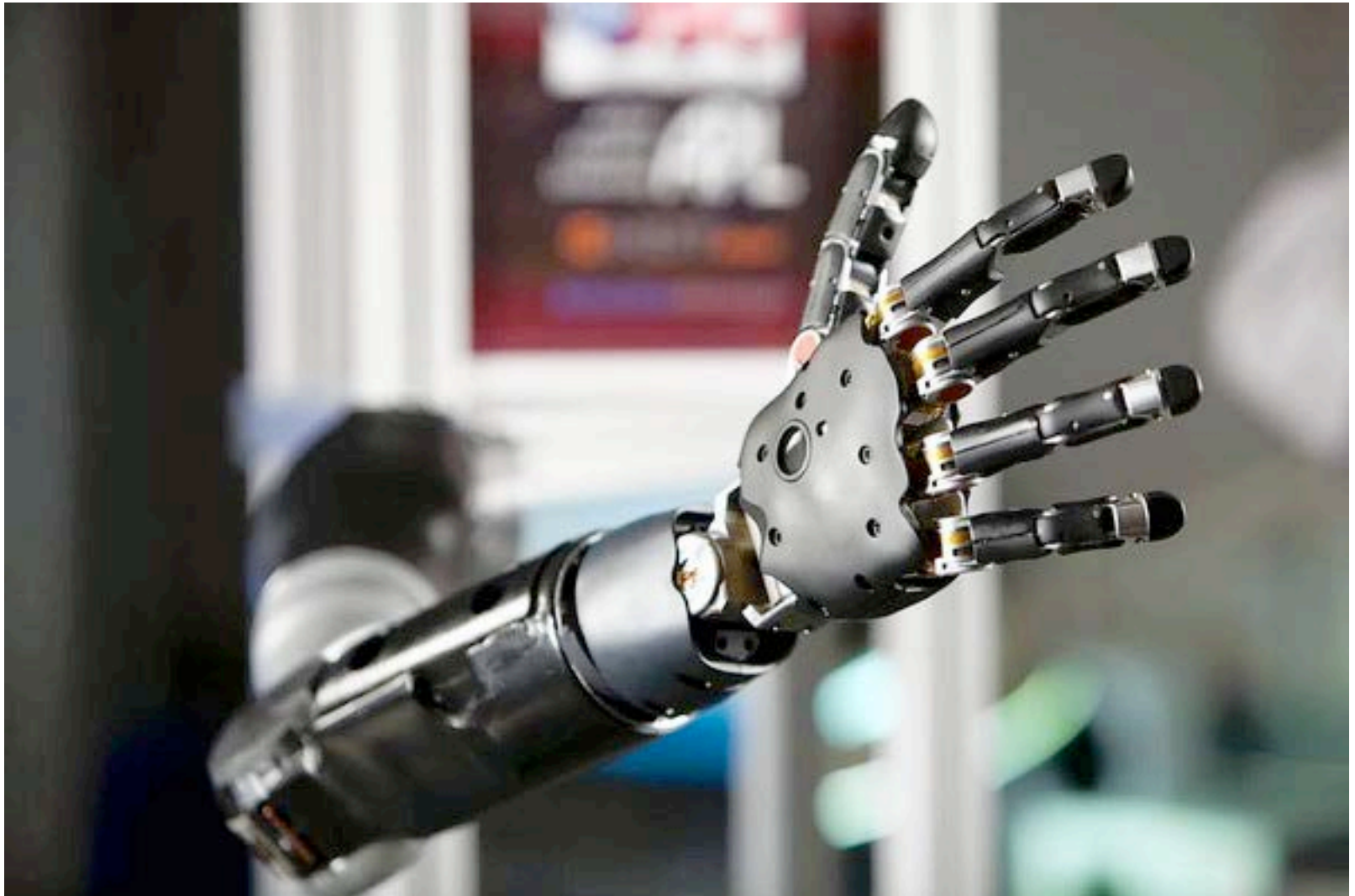
Defense Advance Research Projects Agency (DARPA) - *Army's **B**attlefield **E**xtraction **A**ssist **R**obot (**BEAR**)*

Defense Advance Research Projects Agency (DARPA)
Walkirie   *Hubo*

Three current developments

1. Google

2. Robotics

3. Brain research

Brain research

Greater understanding will lead to new ways of:

- preventing
- treating
- curing brain disorders

  ▪ Alzheimer's disease

  ▪ epilepsy

  ▪ traumatic brain injury

BRAIN Initiative - April 2, 2013

BRAIN Initiative

Brain

Research through

Advancing

Innovative

Neurotechnologies

Brain research

- The human brain is probably composed of 100 billion cells (neurons)

BRAIN Initiative

Multiple biotechnologies are needed:

- Nanotechnology

- Bioelectronics

- Genetics

- Synthetic biology

- Computational advanced technologies

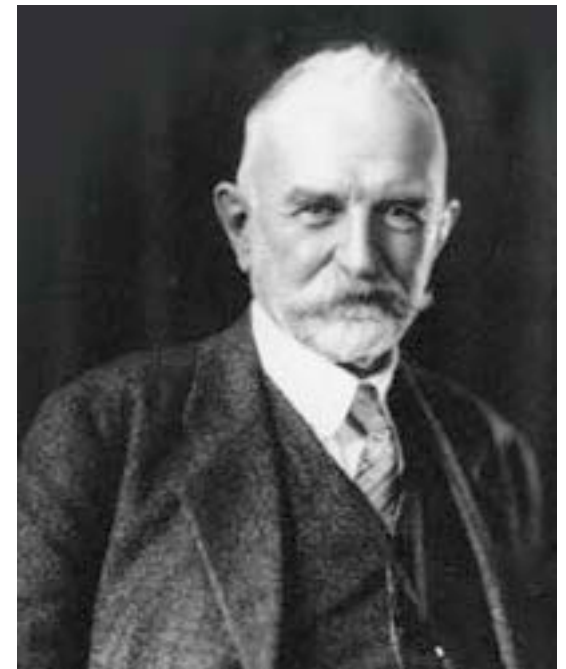# IBM Blue Gene Supercomputer

Magerit supercomputer
Supercomputer and Visualization Center of Madrid (CeSViMa)

Brain & mind

- For the anthropologist George Mead (1863-1931) "the mind emerges from social processes, and thus is not entirely the property of either physiology or psychology."

THEOLOGICAL BIOETHICS & HUMANIZATION

For a renewed humanization

1. Dialogue and conversation
   ◦ No uniformity and unanimity, disagreements

For a renewed humanization

2. To address personal and social challenges, locally and globally, by aiming at further humanization.

- The focus is on the "human"
- Vulnerability, disability, aging
- Healthcare practice
- Public health & global health

For a renewed humanization

3. To situate each ethical issue within a comprehensive ethical approach that aims at humanization.

For a renewed humanization

4. Transhumanism becomes an occasion to reassess the bioethical agenda both in terms of *scope* and of method.

- *scope*: social justice

For a renewed humanization

Social justice:

- How would the pursuit of transhumanism affect social relations among citizens?

- How do the supporters of transhumanism aim at addressing the growing gulf between the "haves" and the "have nots" within countries and globally?

- How do they tackle the increasing gap between rich and developed nations in the world's global North and struggling countries in the global South?

For a renewed humanization

4. Transhumanism becomes an occasion to reassess the bioethical agenda both in terms of scope and of *method*.

- *method*:

  - To articulate a critical analysis   [anamnesis]
  - To assess the situation   [diagnosis]
  - To advance a constructive proposal [therapy]

For a renewed humanization

5. Criticism of transhumanist's mechanistic anthropological understanding of the human body and of the mind
- ◦ Technological artifacts in the body

- "Technologies are tools that extend human agency and will while remaining ontologically differentiated from human being."

<div align="right">(DeLashmutt, 2006)</div>

For a renewed humanization

6. Any technological incorporation might be resisted and rejected

- a *critical hermeneutic*
- a *strategy of resistance*

  ◦ *in individuals*:
    - a Faustian bargain?
    - Luddism?
  ◦ *within society*:
    - the history of biotechnology
    - healthcare & technology

For a renewed humanization

7.Therapy and enhancement

- Therapy and human flourishing
- Which type of enhancement?

Enhancement & philosophical ethics

- J. Habermas, *The Future of Human Nature* (2003)
- B. Gordijn, *Medical Utopias: Ethical Reflections About Emerging Medical Technologies*, (2006)
- B. Gordijn & R. Chadwick, eds., *Medical Enhancement and Posthumanity* (2008)
- J. Savulescu & N. Bostrom, eds., *Human Enhancement* (2009).
- M. Sandel, *The Case against Perfection: Ethics in the Age of Genetic Engineering* (2009).
- A.E. Buchanan, *Beyond Humanity?: The Ethics of Biomedical Enhancement* (2011)

Enhancement & theological ethics

- J.F. Keenan, "'Whose Perfection Is It Anyway?': A Virtuous Consideration of Enhancement," *Christian Bioethics* (1999)

- K. Peterson-Iyer, *Designer Children: Reconciling Genetic Technology, Feminism, and Christian Faith* (2004)

- L. Sowle Cahill, *Theological Bioethics: Participation, Justice, and Change* (2005)

- B. Waters, *From Human to Posthuman: Christian Theology and Technology in a Postmodern World* (2006)

- J.F. Keenan, "Perfecting Ourselves: On Christian Tradition and Enhancement," *Southern Medical Journal* (2007)

- R. Cole-Turner, ed. *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement* (2011)

- B. Waters, *Christian Moral Theology in the Emerging Technoculture: From Posthuman Back to Human* (2014)

Enhancement

For **transhumanists** there might be

"a moral obligation to adopt enhancements"

(Hughes, 2012)

For a renewed humanization

"There is no doubt that adequate nutrition, proper housing, and universal medical care would do more to advance human potential than any microchip or program of genetic enhancement and selection."

(Koch, 2010)

For a renewed humanization

What is morally compelling and urgent is the rediscovery of what it means to be human,

by promoting it in a humanly and socially centered healthcare practice that contributes to personal and social flourishing.

CONCLUSION

Conclusion

Transhumanism proposes a

- technologically-based understanding of human life, nature, and identity, as well as health and well-being, that appear to be grossly mechanistic and deterministic.

Conclusion

- Transhumanists do not account for the social components and determinants of personal and social health.

- Hence, the transhumanist ability of addressing concrete and pressing bioethical challenges is utterly maimed.

Conclusion

- Theological bioethics discusses the expectations and goals of transhumanism by holding on to a robust social justice agenda that relies on virtues, values, principles, rights and that aims at human and social just flourishing.

Conclusion

- Conceptually, methodologically, and pragmatically current transhumanist proposals seem unsuitable and ethically inappropriate to address any present and future health-related bioethical challenge.