

Technologically Advanced Humans

Accountability in AI

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**Design IT.
Create Knowledge.**

www.hpi.de



Agenda



- Definitions
- Examples
 - Physical Enhancements
 - Cognitive Enhancements
 - Genetic Manipulation
- Ethical Considerations
- Regulations
- Discussion



What is Technology?

Design IT. Create Knowledge.

Definitions



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logia (greek) = study / discourse / reason / account

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“the practical application of scientific knowledge especially in a particular area”^[1]

“a machine, piece of equipment, method, etc. that is created by the practical application of scientific knowledge”^[1]

[1] <https://www.merriam-webster.com/dictionary/technology>

Technology

Footage of uncontacted tribe in the Peruvian Amazonas (2025)^[2]



US Army Soldiers during the War in Afghanistan (2013)^[3]




Less Technology

More Technology

[2] <https://www.unilad.com/news/world-news/amazon-tribe-new-images-clear-picture-221663-20260117>

[3] https://en.wikipedia.org/wiki/Modern_warfare



How does Technology impact us?

Physical Enhancements

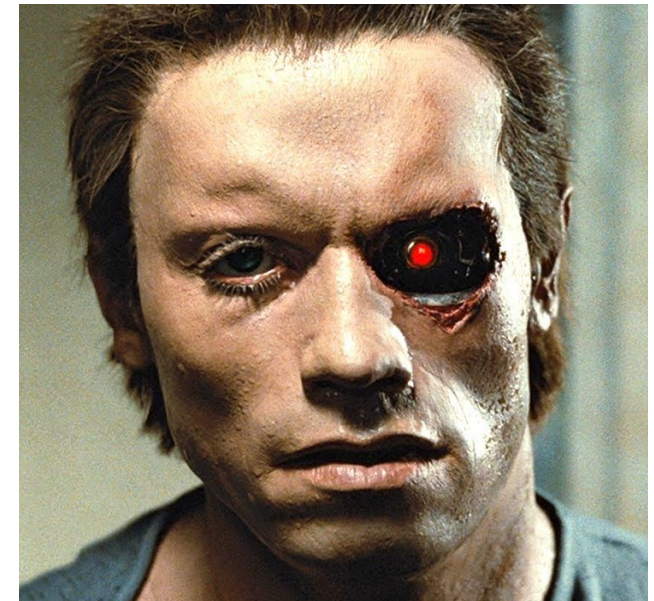
Robotic Rehabilitation Center in Hyderabad^[4]



AI-Powered Exoskeleton as a product^[5]



Human Cyborgism^[6]



Treatment

Augmentation

[4] <https://wellknox.com/medical-rehabilitation/robotic-rehabilitation>

[5] <https://www.germanbionic.com/de/>

[6] https://en.wikipedia.org/wiki/The_Terminator

Cognitive Enhancements

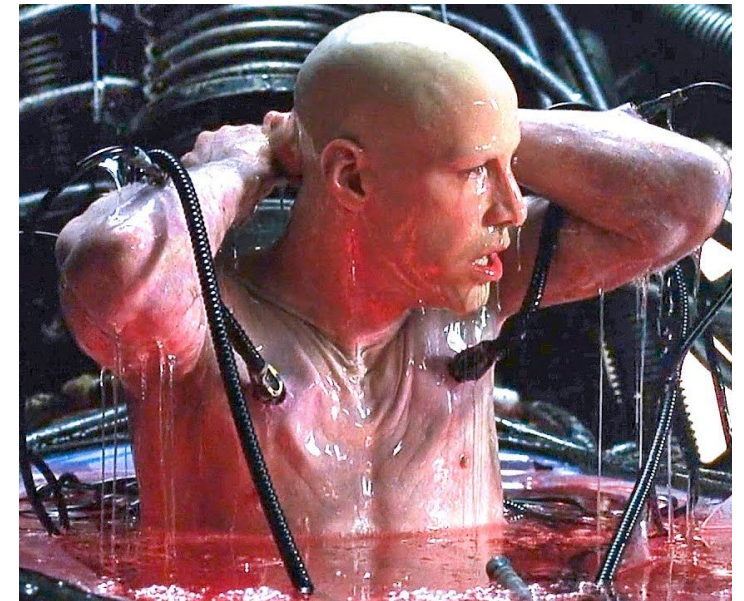
Paralyzed Veteran Implanted with Neuralink Device^[7]



AI-Powered Headband as consumer product^[8]



Digital Consciousness^[9]



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[7] <https://news.med.miami.edu/paralyzed-veteran-surgically-implanted-with-neuralink-device-at-the-miami-project-to-cure-paralysis/>

[8] <https://choosemuse.com/>

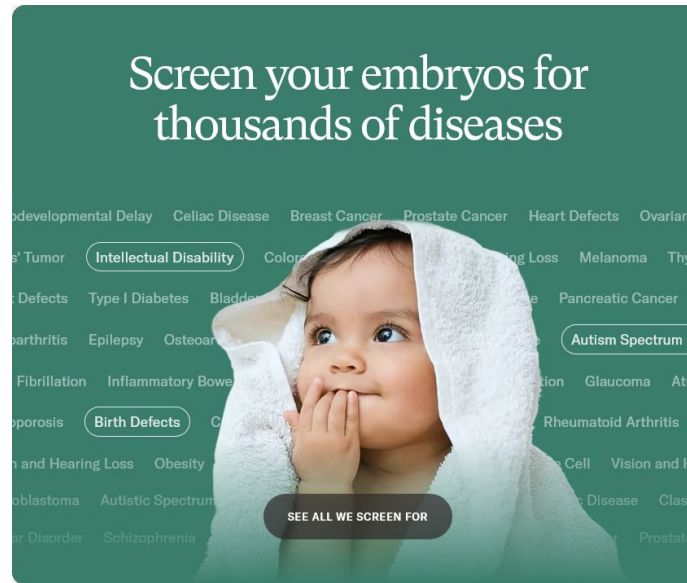
[9] https://en.wikipedia.org/wiki/The_Matrix

Genetic Manipulation

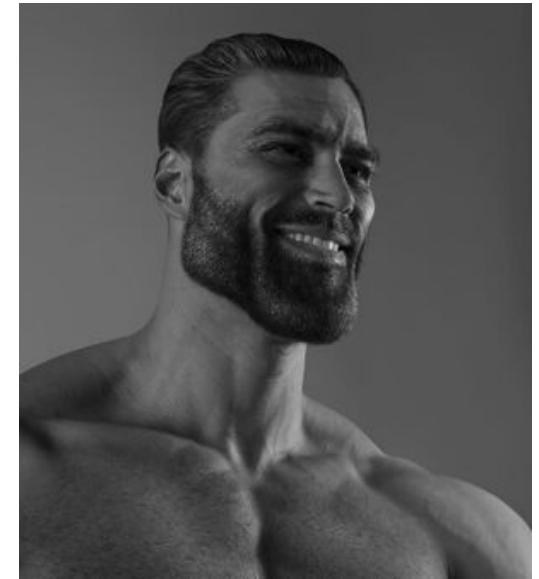
CRISPR Therapeutic Gene-Editing^[10]



Embryo Genetic Screening^[11]



Designer Humans^[12]



Treatment

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[10] <https://crisprtx.com/>

[11] <https://www.orchidhealth.com>

[12] <https://www.fda.gov/vaccines-blood-biologics/cellular-gene-therapy-products/approved-cellular-and-gene-therapy-products>



Where do we draw the line?

Ethical Considerations



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- Unforeseen consequences can arise^[14]
- Privacy and consent pose challenges^[15]
- Long-term effects on societies^[16]

[13] <https://www.frontiersin.org/journals/medicine/articles/10.3389/fmed.2025.1595213/full>

[14] <https://pubmed.ncbi.nlm.nih.gov/38986460/>

[15] <https://pubmed.ncbi.nlm.nih.gov/39466848/>

[16] <https://www.who.int/publications/i/item/9789240030381>

Regulations



- 2018: **WHO** (Expert Advisory Committee on Developing Global Standards for Governance and Oversight of Human Genome Editing)^[17]

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- 2023-2025: **UNESCO** (Recommendations on the Ethics of Neurotechnology)^[19]

[17] <https://www.who.int/publications/i/item/WHO-SCI-RFH-2019-02>

[18] <https://www.sienna-project.eu/w/si/enhancement/legal-aspects>

[19] <https://www.unesco.org/en/node/86248>

Discussion

Questions



- Would you be willing to *technologically enhance* yourself?

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- Would you be willing to *technologically enhance* yourself?
- What benefits and downsides do you see?
- How will this impact society?