

On Cyborgs, Liability, Equity, Access, and Regulation

More results and implications at:



Hummd Alikhan
and Lindah Kotut



How will the commercialization of cyborg technologies impact the balance between bodily autonomy and proprietary control over implants?

Introduction

Biohacking is an interdisciplinary practice merging biology, DIY methods, body modification, and technology to enhance physical or mental performance, such as embedded RFID chips.

Motivation

As the acceptance and perceived utility of enhancement technologies grow, conversations about the ethical implications of integrating technology into the human body become inevitable, despite medical ethics traditionally limiting recreational use.

Methodology

- We build on Roger Clarke's categorization of cyborg technologies, dividing them into prosthetic and orthotic interventions based on integration levels [1].
- Prosthetics allow for an inherent functionality of the body to be restored.
- Orthotics allow for the extension of a body's capabilities.
- Cyborgs are an entity that combines biological and technological elements, achieving a functional synthesis of both [2].
- We use design fiction as a method to contemplate the ethical dilemmas of future cyborg tech.

Design Fiction

- We proposed the Febris Implant system, which would enhance organ efficiency while requiring recipients to pay a monthly subscription.
- These attachments are regulated by a control panel located under the skin, accessible to certified technicians and users.
- Applications range from basic quality of life improvements, to life-changing outcomes such as peak performance in sports, access to gender affirming care, support through medical emergencies, as well as military applications.

What could possibly go wrong?

Provocations

Let's make things clear. Here are some questions that should be kept in mind with the development of future cyborg technologies.

Cyborg Do we find the idea of endo-orthotic cyborgs to be feasible in the next 50 years?

Liability What constitutes voiding of warranty for an implant of this type? Will there be the right to repair the proprietary technology that has been implanted?

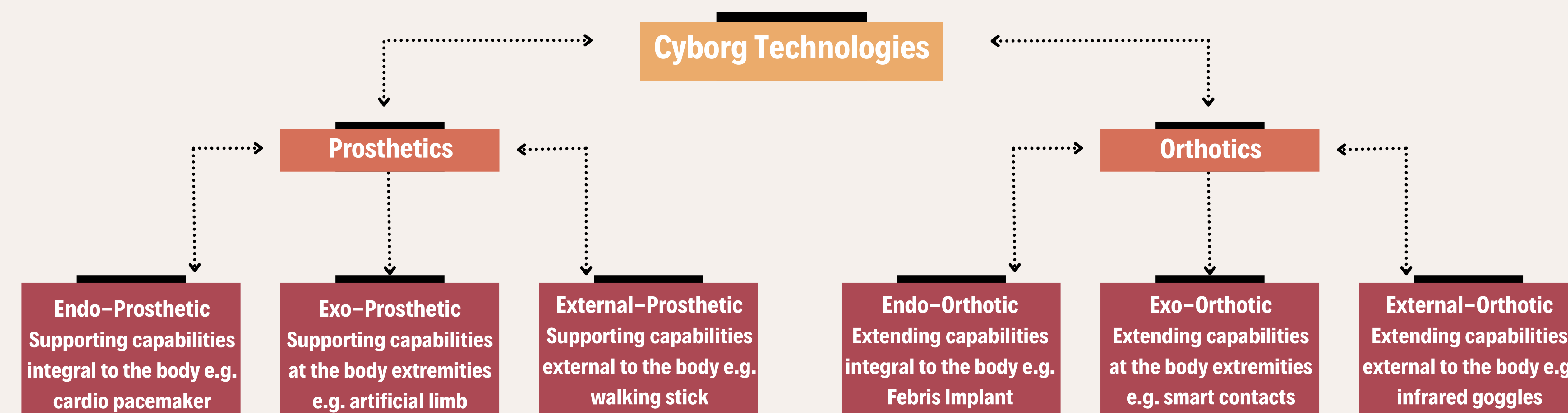
Equity Is it ethical to release a technology that could be used to exacerbate social divides without putting guardrails up for fair usage?

Access Will individuals who received an implant during military service ever gain full control over their implants? Would we allow for the enhancement of children?

Regulation How will enhancement technologies balance with prevailing laws?

Conclusion

The DIY ethos in biohacking for cyborg creation may have a limited lifespan as acceptance of Endo-Orthotic technologies becomes more prevalent. It's plausible that established companies in wearable tech and medical implants will lead the development and mass production of these technologies. Ultimately, we aspire to a future where technological enhancements can afford us complete bodily autonomy, yet before they are released, HCI designers and practitioners should be considering questions of liability, equity, access, and regulation in order to prevent unintended consequences.



Related literature

[1] Clarke, Roger. "Cyborg rights." 2010 IEEE international symposium on technology and society. IEEE, 2010.

[2] Naughton, Liam, and Herbert Daly. "Augmented humanity: data, privacy and security." Cyber defence in the age of AI, smart societies and augmented humanity (2020): 73-93.