

# The Imaginaries of Merging Minds and Machines

A Hermeneutic Reflection on the Technofutures of the Neurointerface in Popular Culture

# Prologue



It matters...

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## ***HOW DO YOU IMAGINE THE FUTURE?***

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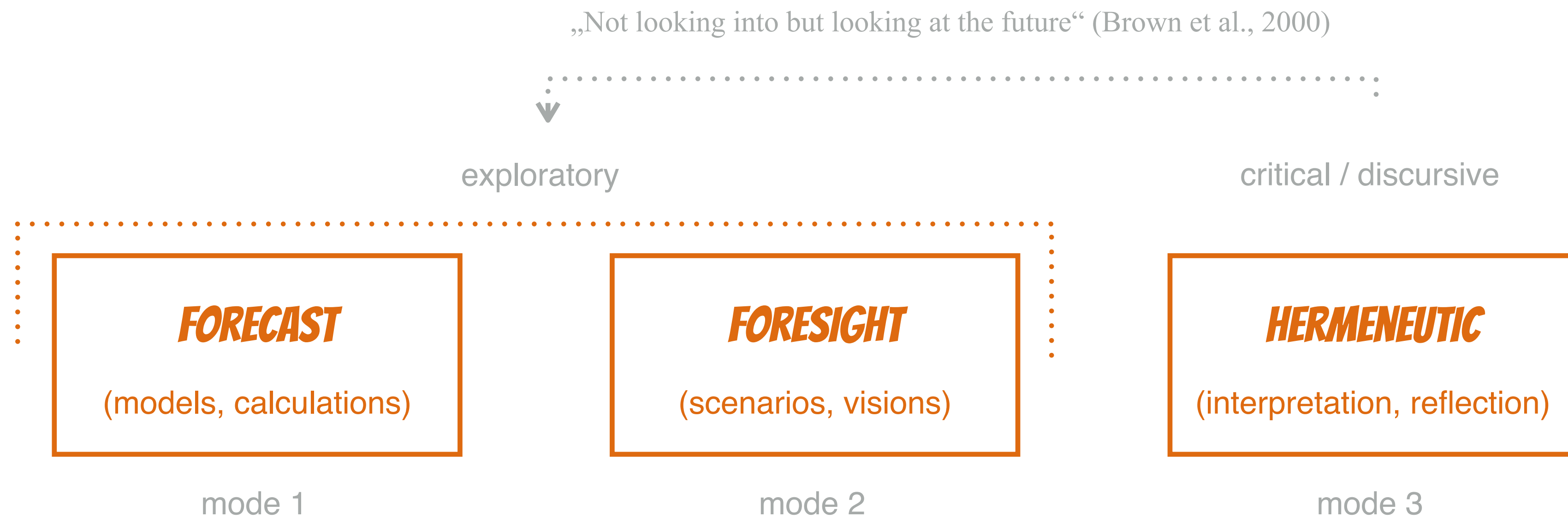
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Future studies as  
Imaginary studies



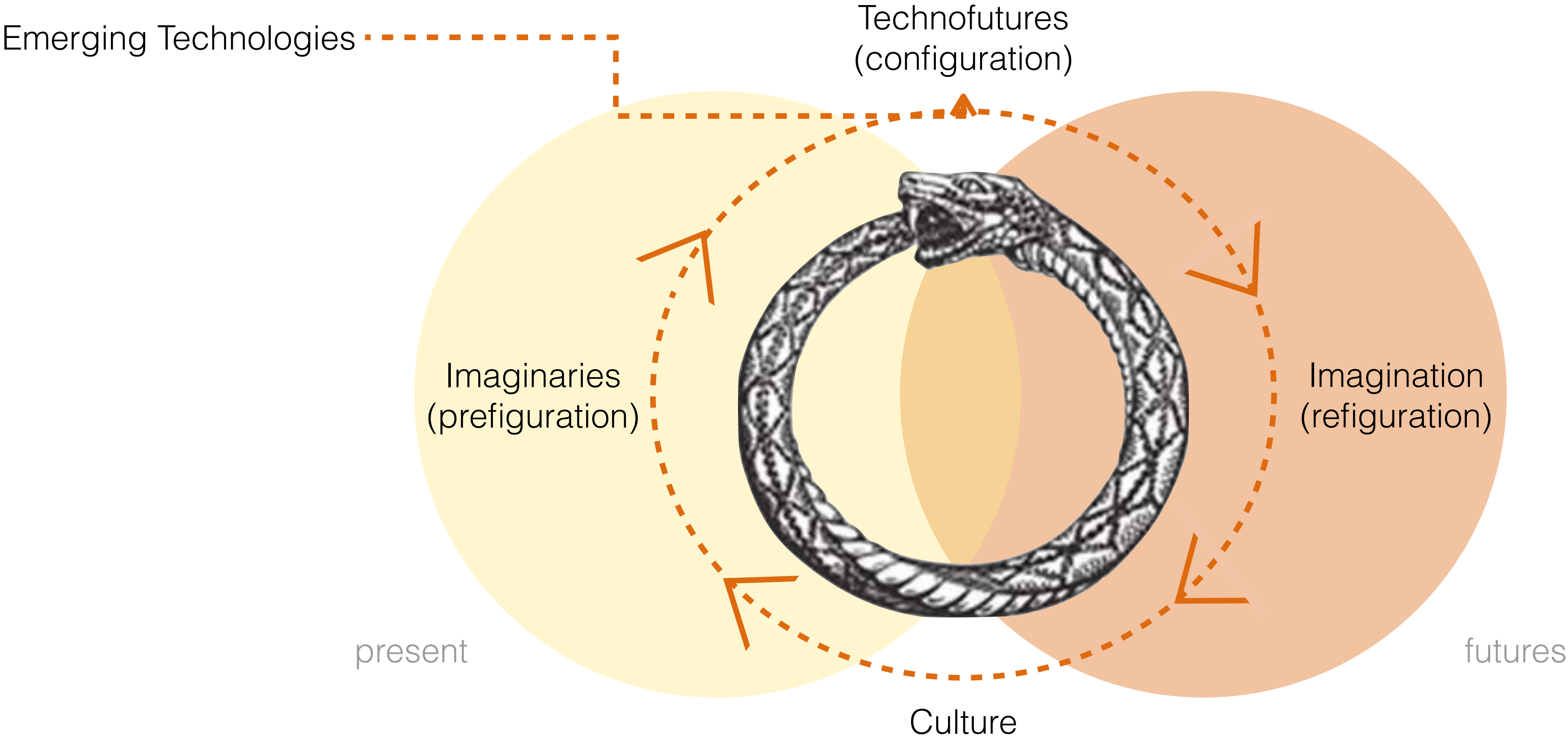
# Three Modes of Orientation (Grunwald, 2014)



# Technofutures...

- ▶ ... are mediated **representations of future worlds shaped by new and emerging technology**.
  - ▶ They include: Presentations, Foresight reports, Science-Fiction, Advertisement, Company visions, etc.
- ▶ Borrowing from Paul Ricoeur (1990):
  - ▶ ... they are **prefigured**, as they are **social texts** which hold the socially shared imaginaries of a present culture (*social imaginary significations* (Castoriadis, 1986, S. 84))
  - ▶ ... they are **configured**, as they are always mediated and created by certain authors. Thus they also need to be adopted to the restrictions of the medium and the intentions of the authors.
  - ▶ ... they **refigure** futures, as they have a **sociotechnical** impact, and, despite being fictional, shape technological processes through discourses and visions (Leitbilder) that guide the development.

# Technofutures as merging machines





# The Neurointerface

# Neurointerface

- ▶ aka Brain-Machine Interface or Brain-Computer-Interface
- ▶ Function:
  - ▶ Measures the action potential in the brain
  - ▶ transmits the signals to a computer
  - ▶ either invasive or non-invasive
- ▶ Interested in the Imaginary Object
  - ▶ AM / FM
    - ▶ Actual Machines
    - ▶ Fucking Magic



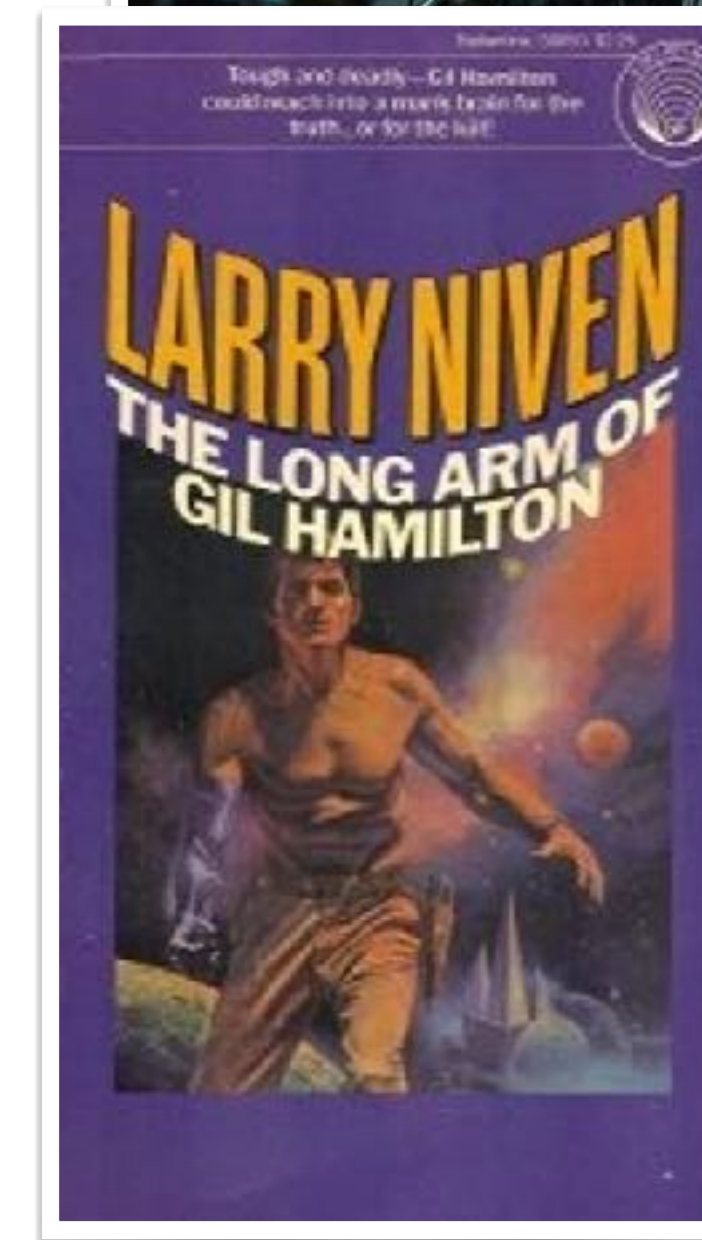
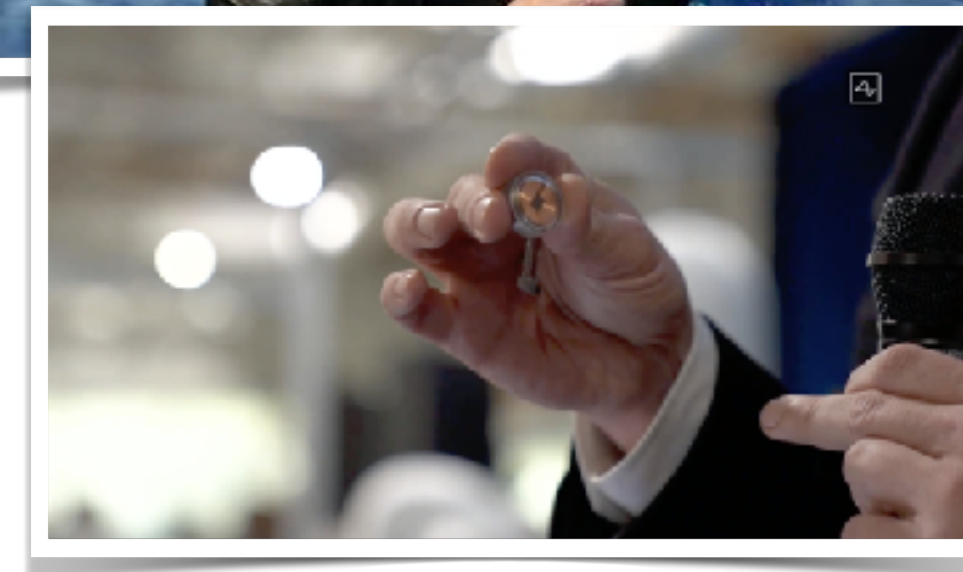
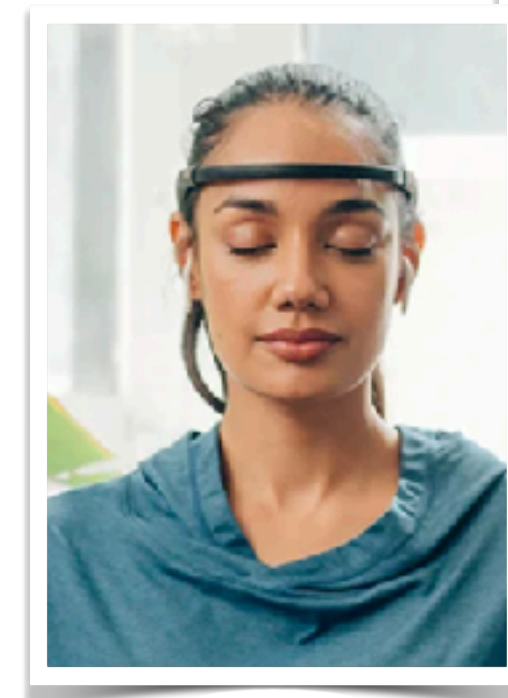
Alvin Lucier – Music for solo Performer (Lucier, 1965)





# Deconstructing Neurofutures

- ▶ Analysing Imaginaries and understanding their diffusion
- ▶ **Neuropunk**
  - ▶ SF Subgenre using the Neurointerface as main Novum
  - ▶ Corpus: 50+ narrations
    - ▶ Mixed media: text, audio-visual, performance, games
- ▶ **Corporate visions**
  - ▶ Building 8, Neuralink, Netcome, Muse
- ▶ **Transhumanism**
  - ▶ Moravec, Bernal





# Guiding questions

- ▶ Which imaginaries are associated with the device?
- ▶ What functions are attributed to the device?
- ▶ How is it imagined to change our society?
- ▶ Where do the imaginaries come from?
- ▶ How do they change through the discourse?

# Three recurrent imaginaries

The neurointerface to enhance the body

The neurointerface as an immersive  
media experience

The neurointerface to upload the mind

# Three recurrent imaginaries

The neurointerface to enhance the body

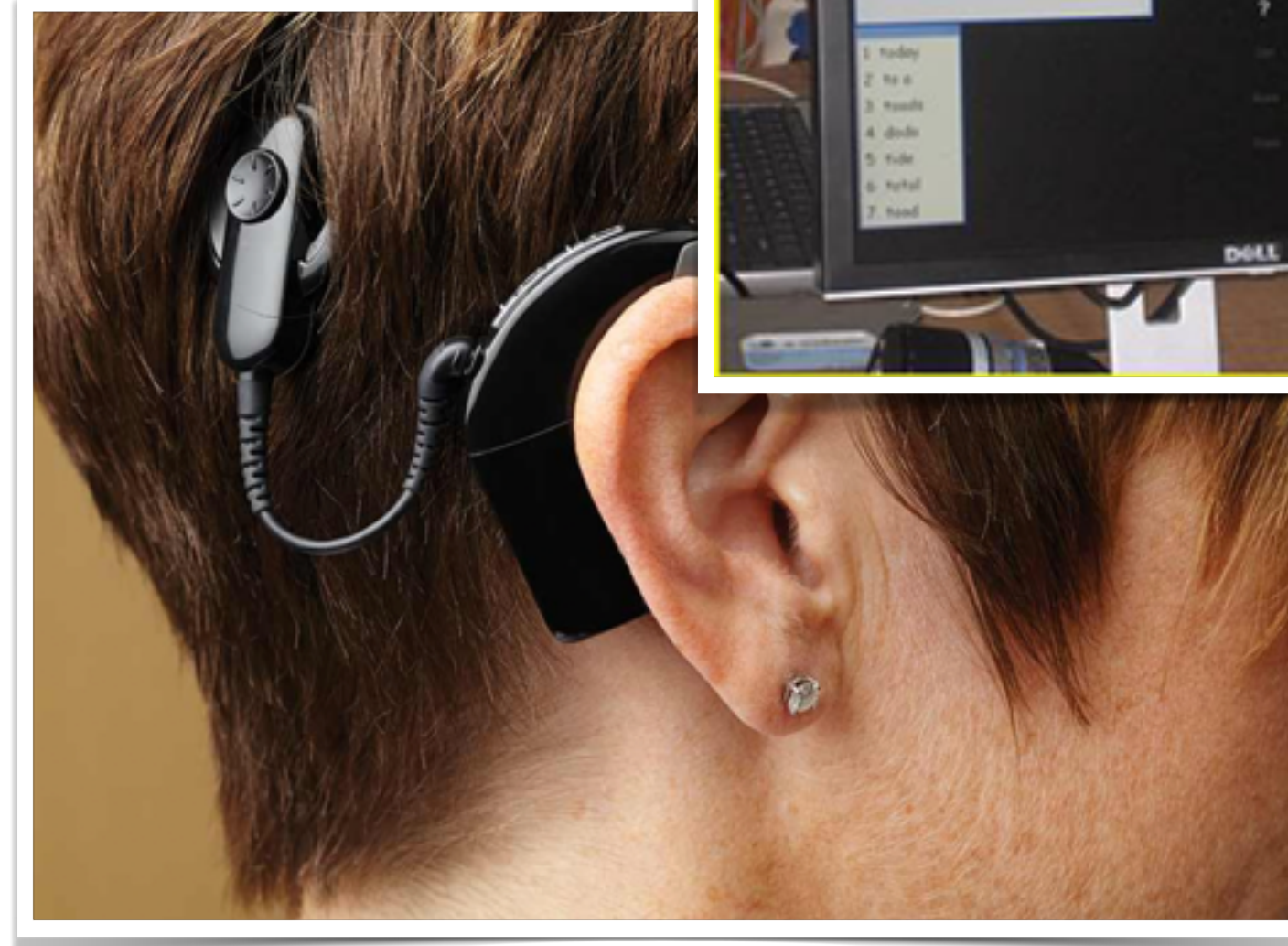
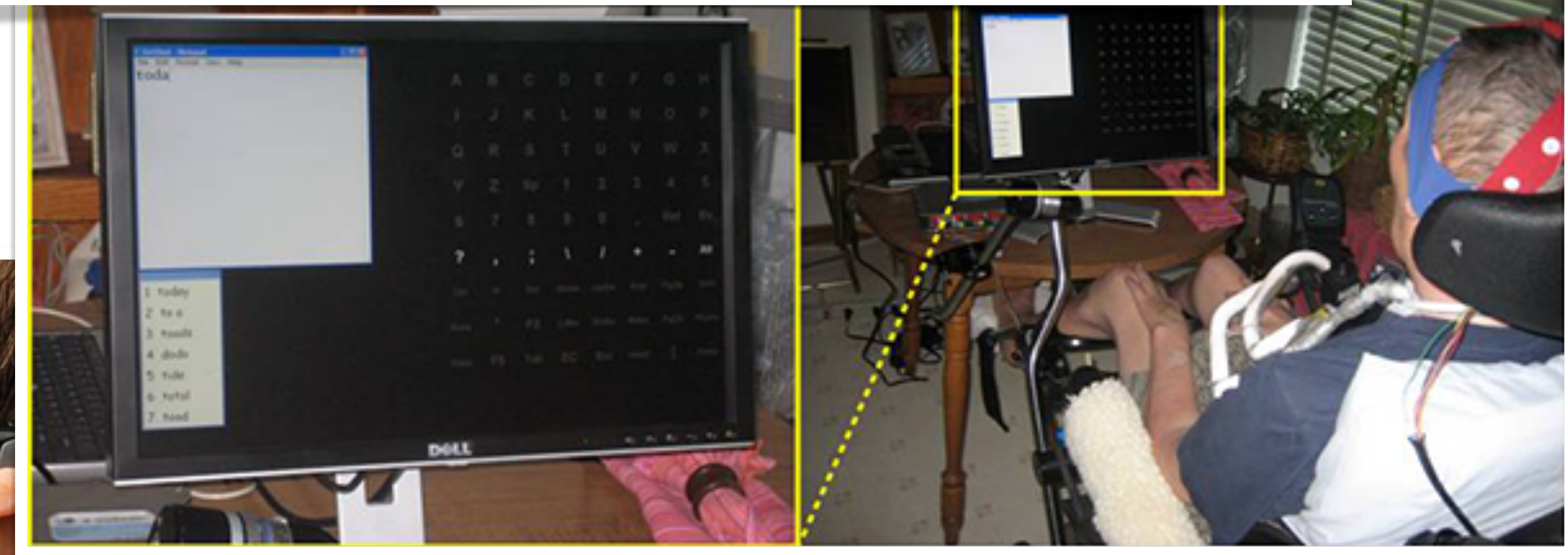
The neurointerface as an immersive  
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## Enabling the disabled

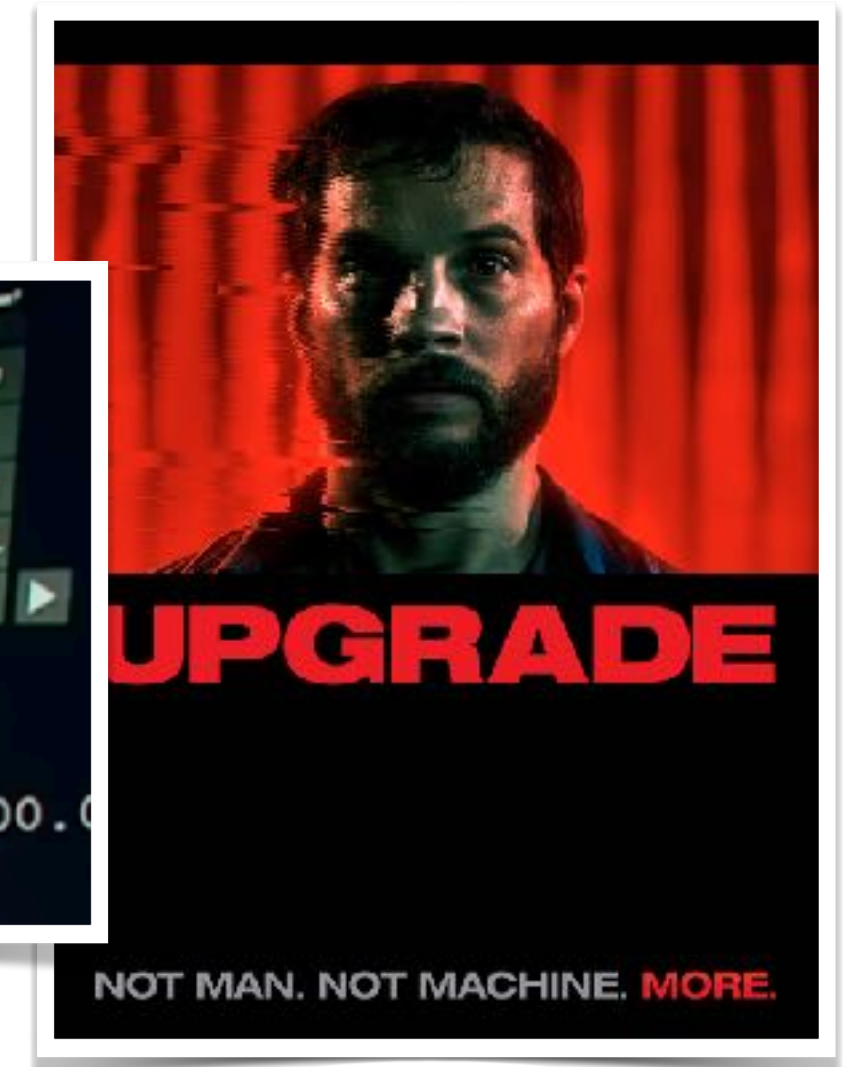
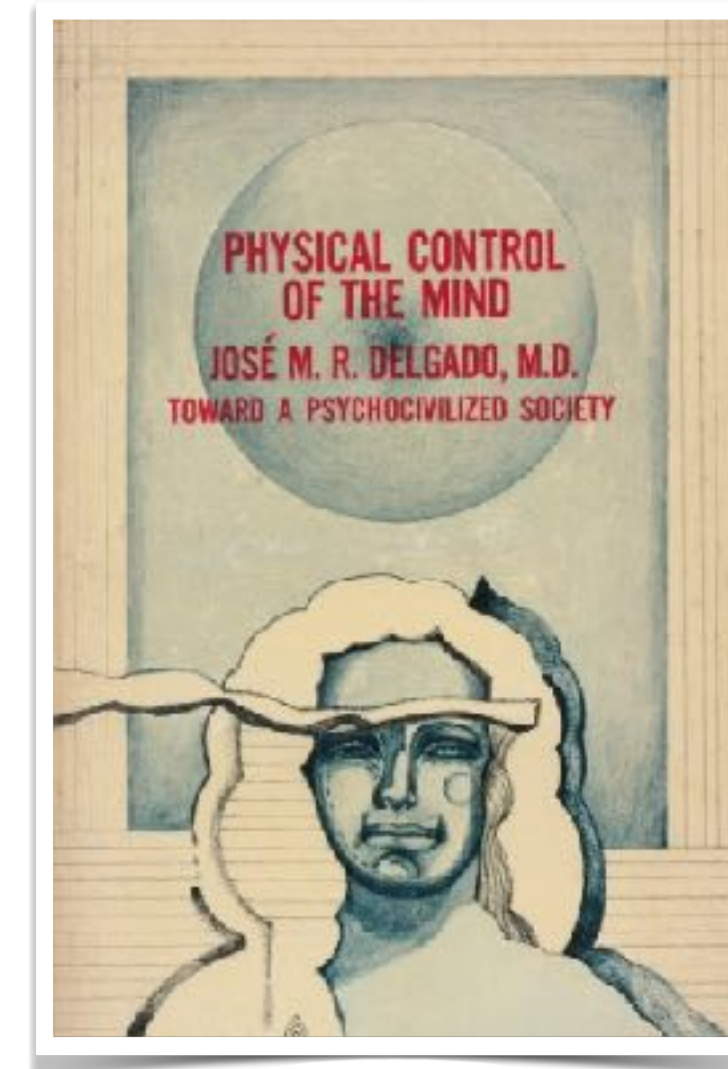
- ▶ a few examples of the neurointerface in use
  - ▶ Robotic arm fist bump (Nathan Copeland, 2015)
  - ▶ Locked-In patients
  - ▶ Cochlear implants





# Correcting dysfunctions

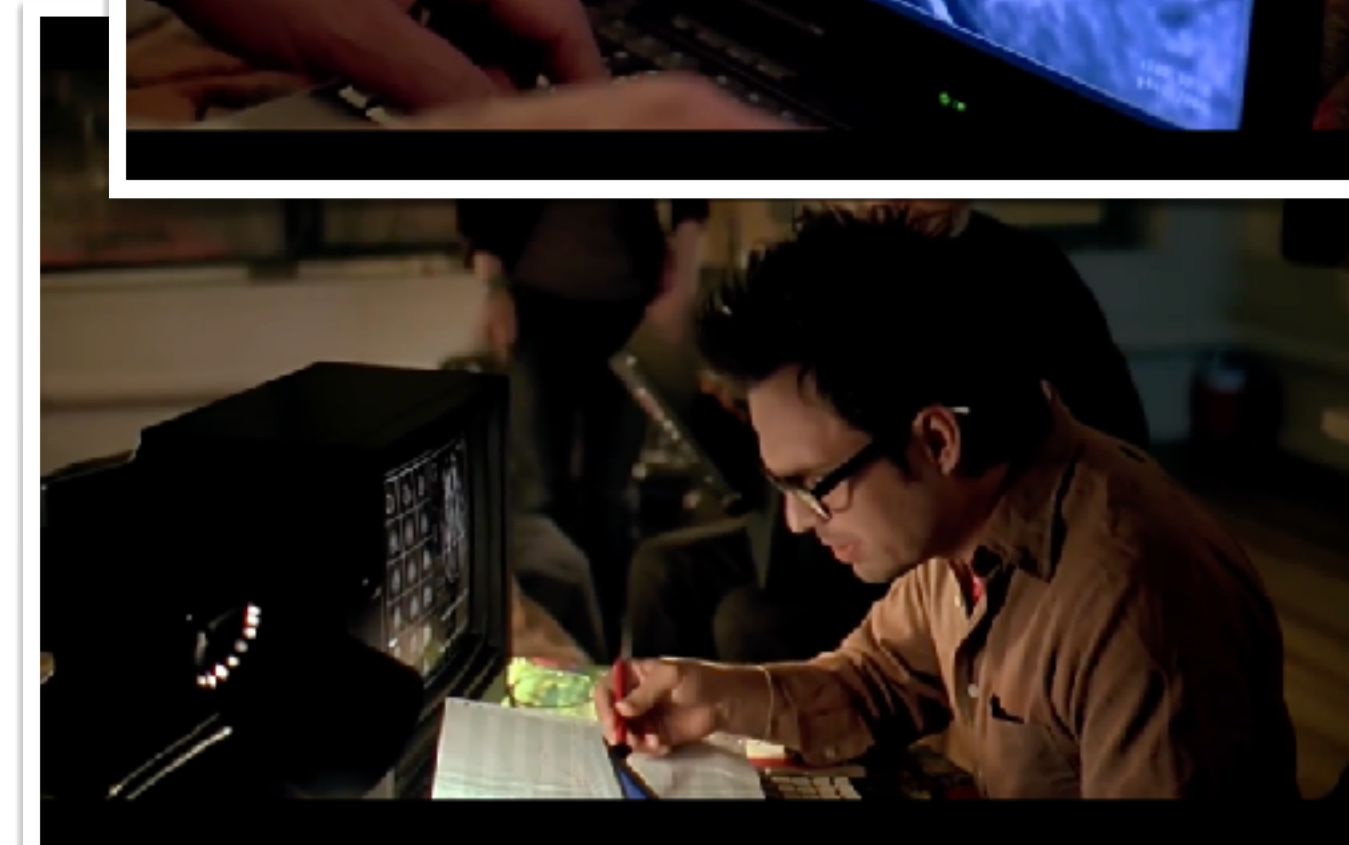
- ▶ Psychological dysfunctions
  - ▶ Jose Delgado (1970)
  - ▶ Terminal Man (Hodges, 1972)
- ▶ Physiology dysfunctions
  - ▶ Krishna Shenoy (Stanford, 2017)
  - ▶ Upgrade (Whannel, 2018)
- ▶ Imaginary:  
Correct human dysfunctions and impairments





## Cure the healthy

- ▶ Redefining bodily malfunctions
- ▶ Example:
  - ▶ Eternal sunshine of the spotless mind
  - ▶ Love Sickness as dysfunction
  - ▶ Treated by deleting memories from the brain
- ▶ Imaginary:  
Restoring „normal“ efficiency



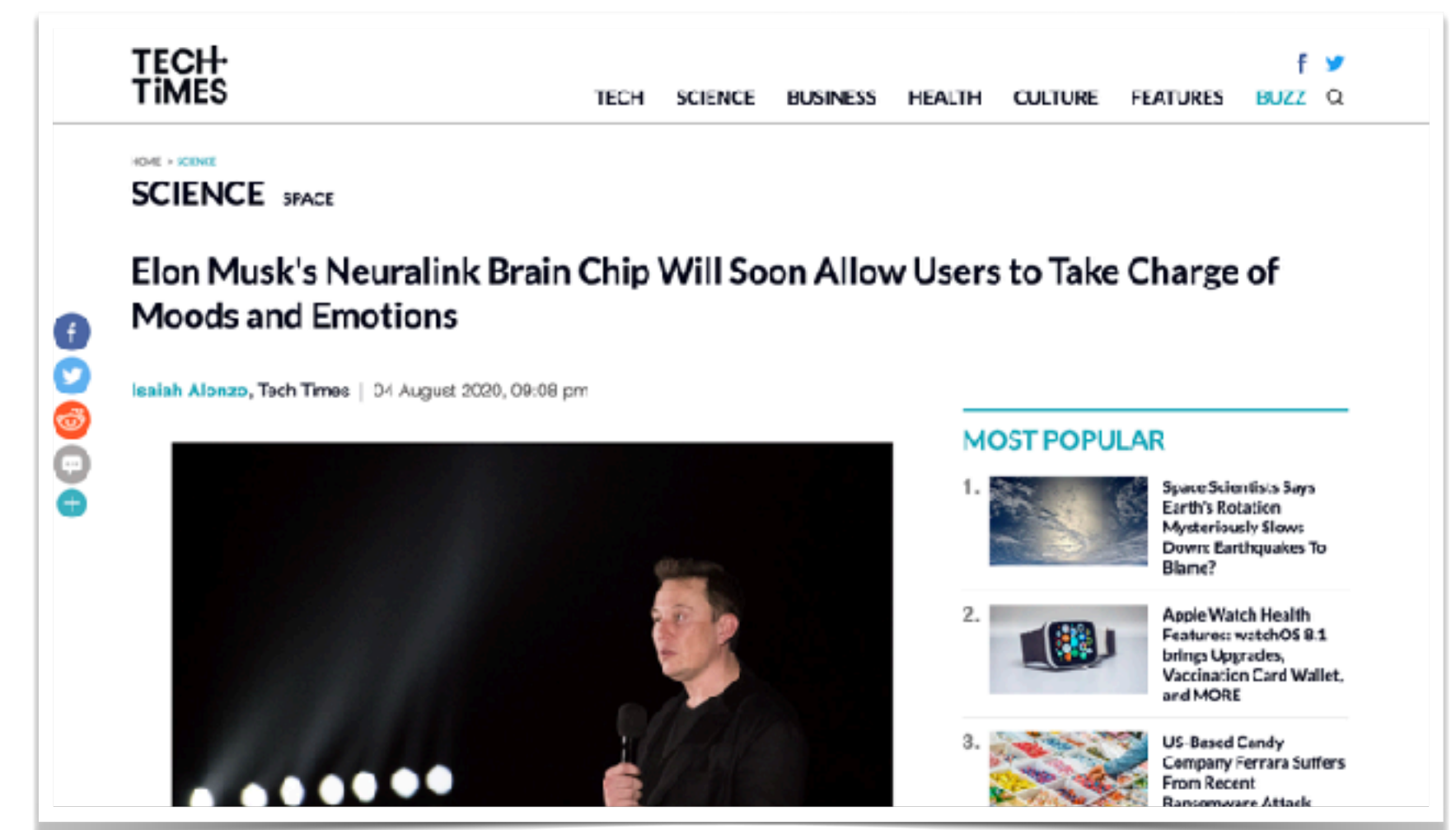
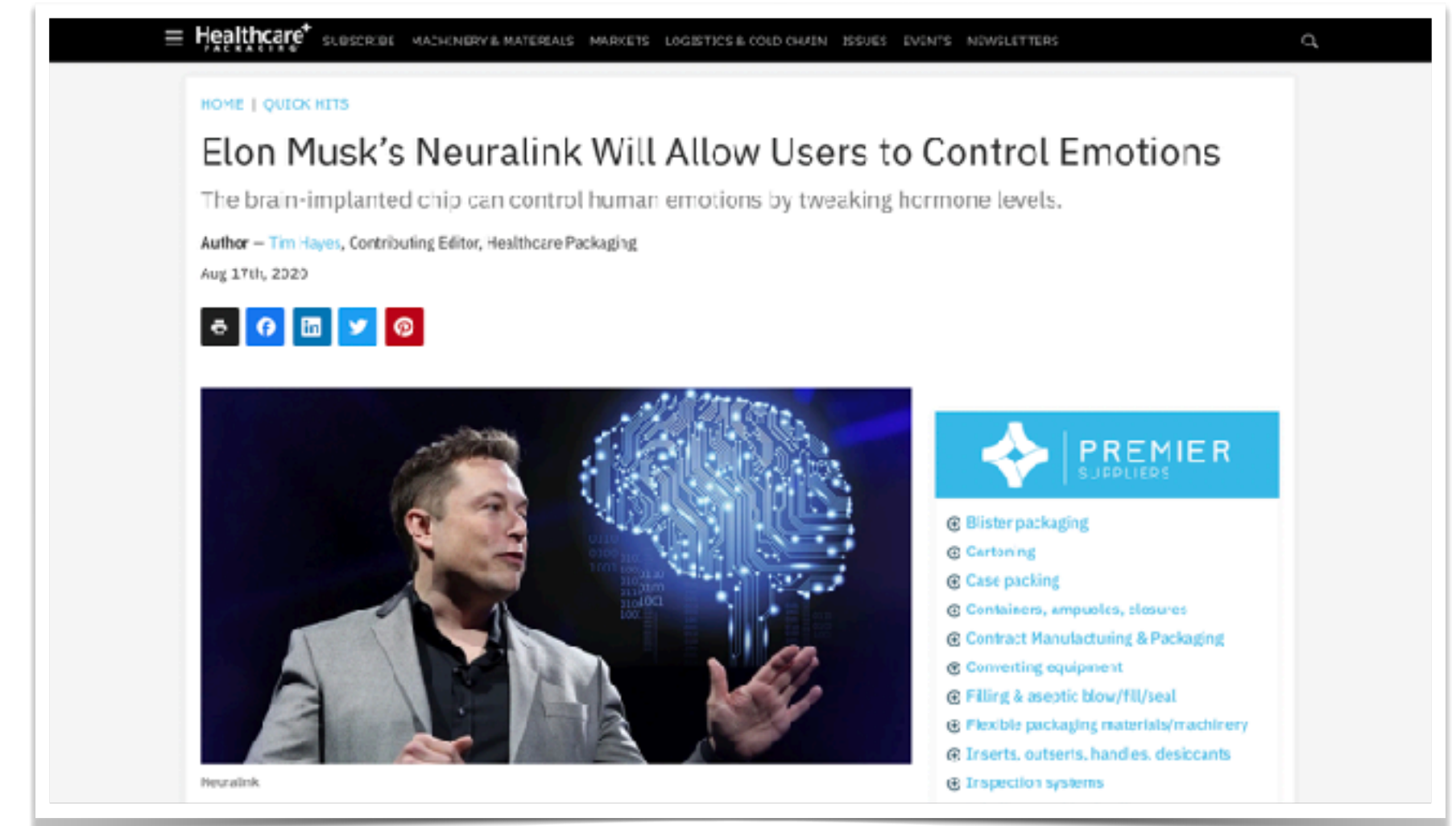


# Cure the healthy

▶ Redefining emotions

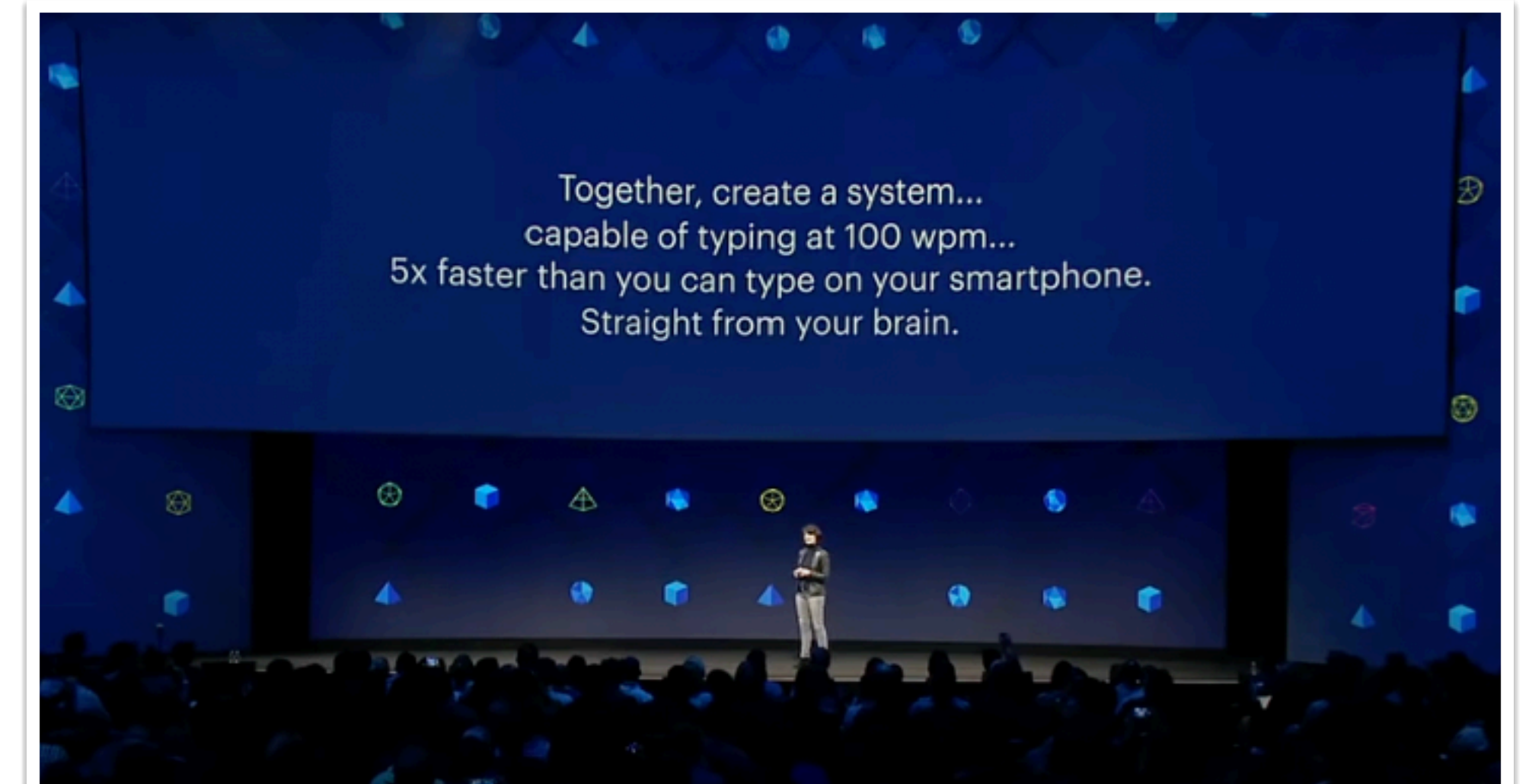
„Are you ever in a bad mood for seemingly no reason at all? Wouldn't it be great to control your emotions and turn a bad mood around with the flip of a switch? According to a recent Tech Times article, that concept isn't just science fiction; Elon Musk's Neuralink is already working on it.“

„This technology will help in a person's temperament and emotional levels to handle a surge in stress and emotions. In turn, the person using Neuralink's chip will have more control and have better reasoning skills.“



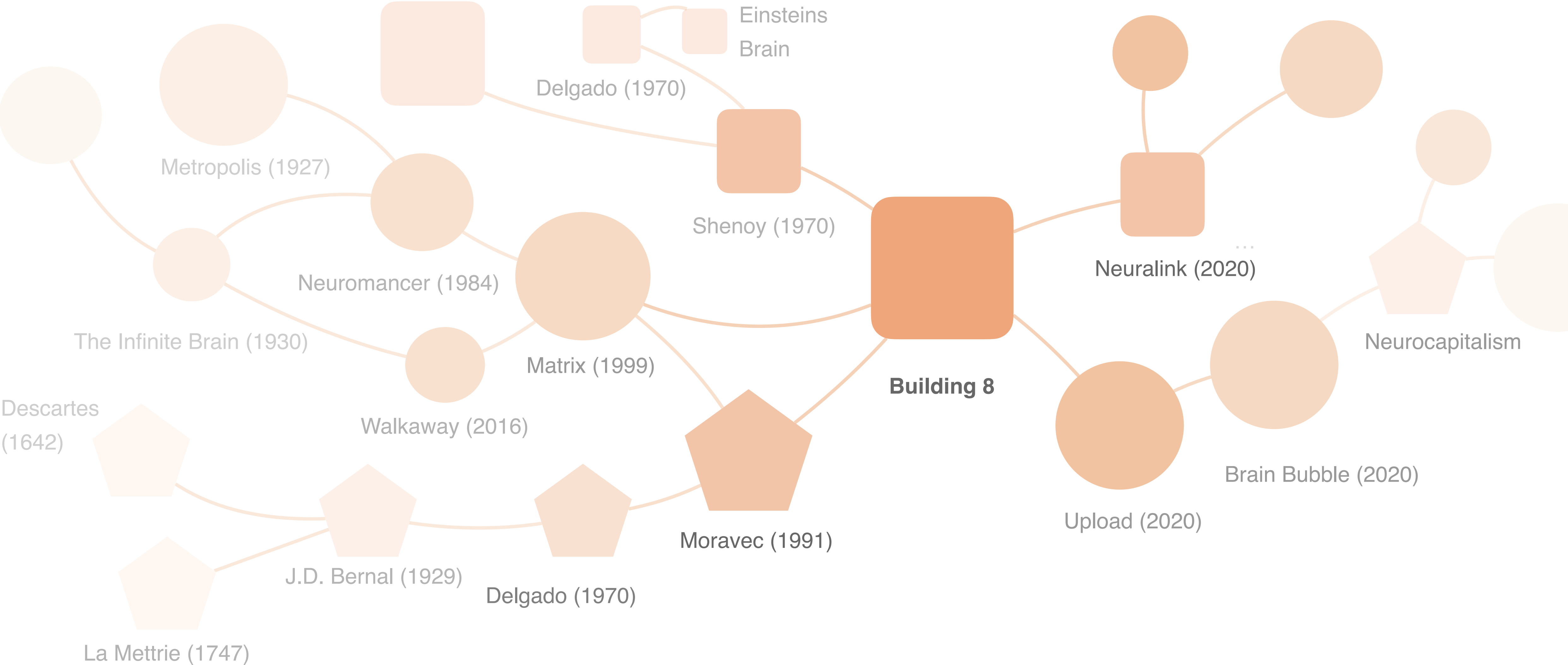
# Enhance the healthy

- ▶ Building 8 (Regina Dugan, 2017)
  - „Your **brain is capable** of producing about one terabit per second. About 40 HD movies are streaming in your brain every second now“
  - „Speech is essentially a **compression algorithm** – and a lossy one.“
  - „What if you could **type directly from your brain?** It sounds impossible but it's closer than you may realize.“
- ▶ Becoming more efficient, as we are not good enough yet.
- ▶ Imaginary:  
Human beings as creatures of deficiency (Gehlen, 1988)

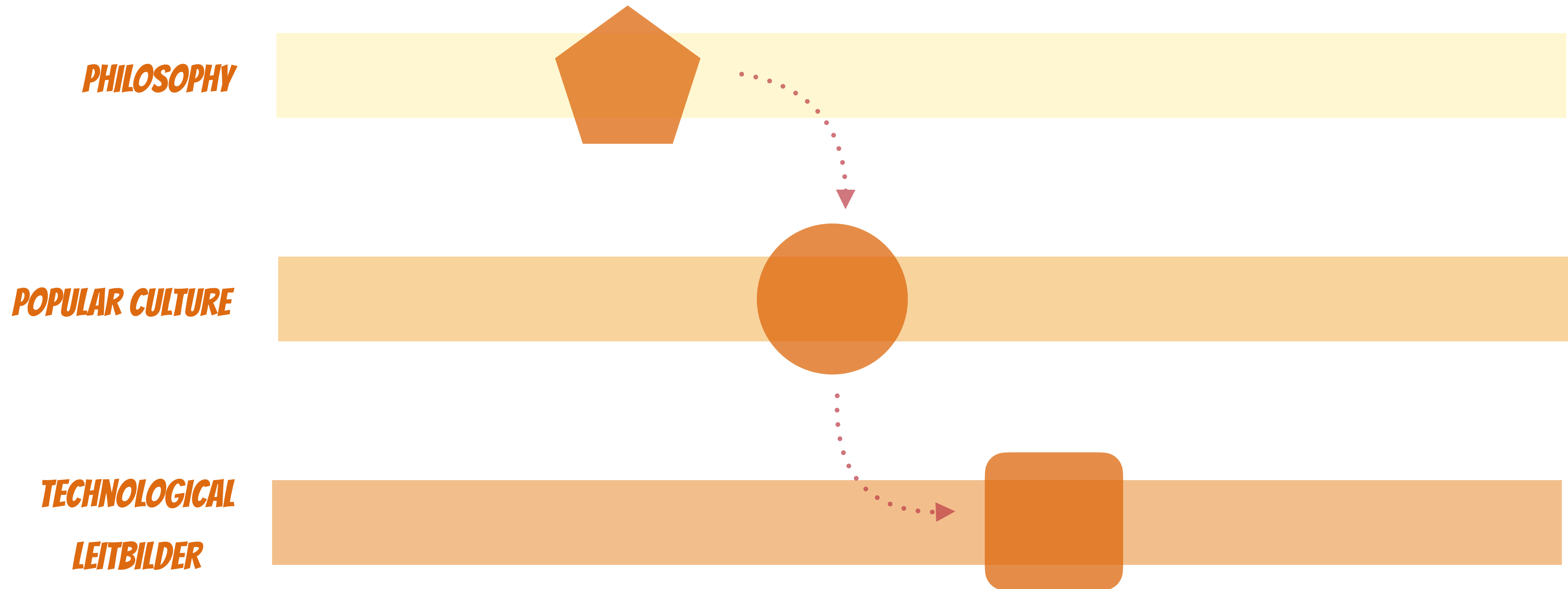




# Genealogy of Imaginaries (Ecosystem)

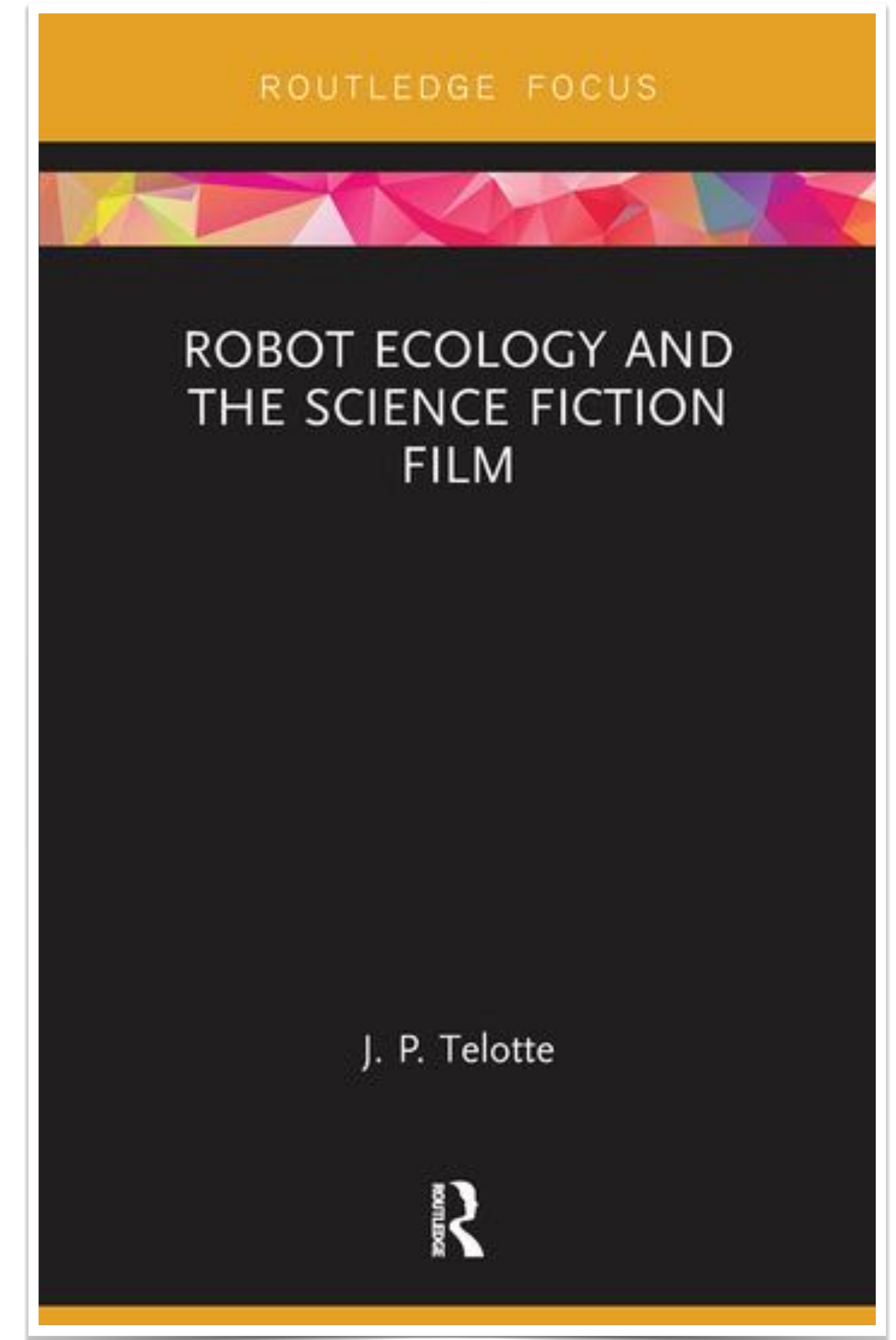


# Imaginaries morphing



## Example: Robot Ecology

- ▶ The robot as a **spreadable trope** „able to inhabit different parts of the media landscape, easily extending its sf character in a variety of directions and providing meanings for different sorts of audiences, including a **non-sf audience**.“
  - ▶ see also William Gibsons „**Cyberspace**“
- ▶ Imaginary diffusing through culture like **memes** (Dawkins):
  - ▶ Longevity = strength of the meme
  - ▶ Fecundity = Permutation and variation of the meme
  - ▶ Copying-Fidelity = Keeping its core characteristic



## Wrap Up and Take Away

- ▶ This approach...
  - ▶ ... cuts away the glossiness of hype and marketing.
  - ▶ ... reflects the imaginaries, not the technology.
  - ▶ ... allows discussing not the plausibility but the preferability of the depicted future.

“For decades, the shape of things to come has remained the same. The hi-tech utopia is always just around the corner, but we never get there. As I began work on this book, I set myself the task of explaining one of the strangest phenomena of the early twentyfirst century: **the future is what it used to be.**”

(Barbrook, 2007, S. 6)

Thank you!

Wenzel Mehnert

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