How to Study the Metaverse: Cognition, Embodiment and Experience in Immersive Worlds

Media Research Seminar on 23rd March 4pm.
On campus (EB1.45) and Teams

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Following Facebook's move to Meta and recent ACI/UEL interest in emerging immersive technologies and practices, this research seminar aims to critically locate the metaverse in interdisciplinary research (media theory, social sciences and human computer interaction debates).

Tony Sampson

Diana Lengua

Alex Thomas

The ‘embodied internet’

- Zuckerberg’s ‘embodied internet’ as the next stage of internet interactivity

- Embodiment = *interplay between brain, body and technological context*

The ‘embodied internet’ 🤦

- We’ve been here before (VR in late 1990s)

- Our question is not about if, when, how…
- About grasping embodiment in changing computational contexts
- Interplay between bodies, brains, social, tangible, emotional, feely, affective “user experiences”

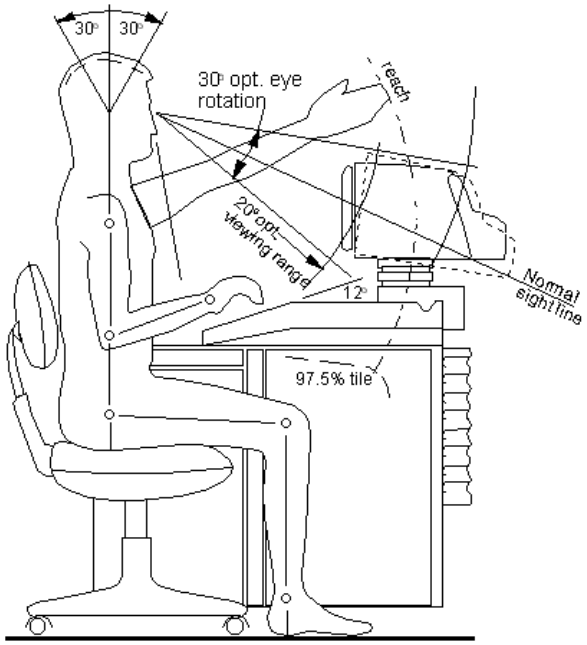
Media Theory
meets
Human Computer Interaction (HCI)

- Media theory learns from and adds critical edge to HCI
- Locating embodiment in…

1. **Work/practices** – bodily efficiency (Taylorist workplace), mind efficiency (cognitive labour), emotional efficiencies (experiential labour)
2. **Economy** – Industrial (bodies, machines), Post-industrial (minds, information), Experience Economy (From Disney factory to Disneyland)
3. **Media philosophy** – HCI's "atheoretic" Taylorist origins, cognitive paradigm, representation, phenomenology, to new materialist (affect theory, non-representational theory, ontologies of experience, more than human, nonhuman)

Locate changing role of the brain/body relation in three paradigms of HCI research (Adapted from Harrison, Tatar, Sengers, 2007)

Ergonomics

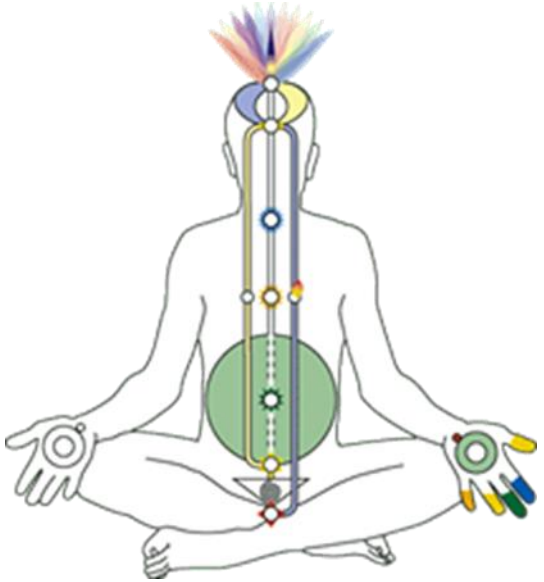


Management of efficient body-machine coupling (Taylorism)

Cognitive HCI

Management of efficient cognitive processing (mind-computer metaphor) (Post- Taylorism)

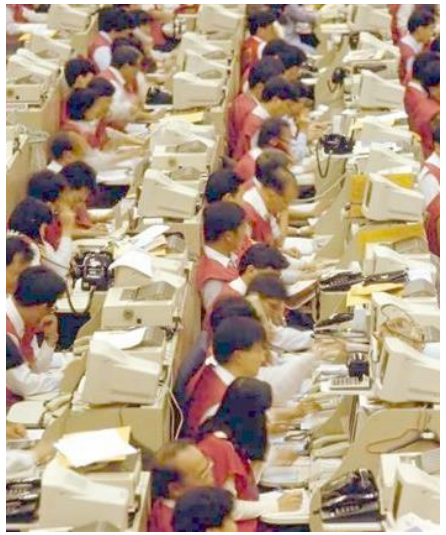
Experience HCI

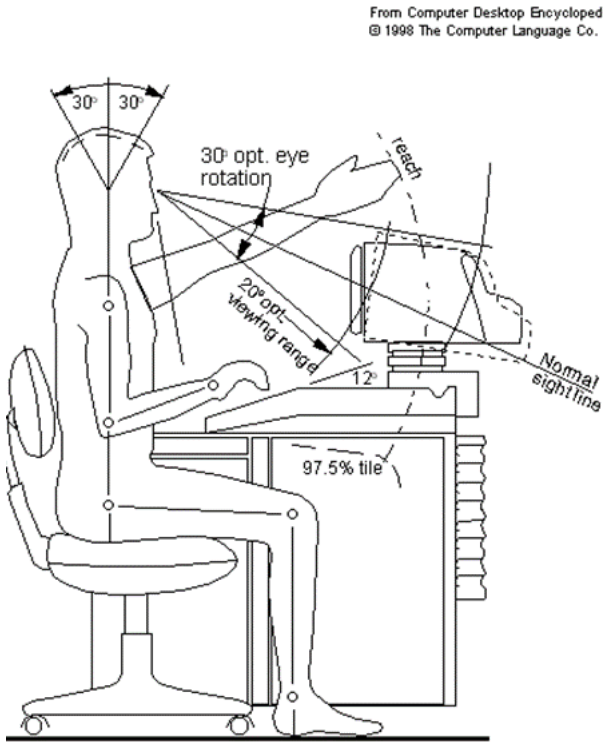


Management of efficient brain-body processing (Experience Economy)

Embodied interaction in the first paradigm

- Ergonomic efficiency (laws of work)
- Taylor factories/Disney factories
- IBM factories
- Call centres/Amazon factories





Antonio Gramsci's critique of **Taylorism, Mechanization, and the Worker's Brain**

First Paradigm: body/machine coupling

Gramsci on the interplay between the brain and the body

- [in the Taylorist factory] "the brain of the worker, far from being mummified, reaches a state of complete freedom"

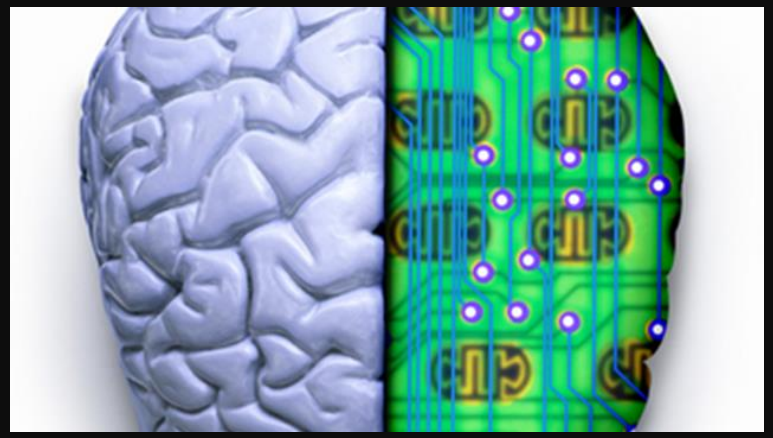
Second Paradigm

Cognitive labour?
Mental experience

- "The disciplines of the efficiency of the body were replaced by the disciplines concerned with the efficiency of the new instrument of labor -- the mind."

The Labor of Perception (Manovich)

- Processing experiences mentally, via perception, attention, awareness, memory, choices and decisions



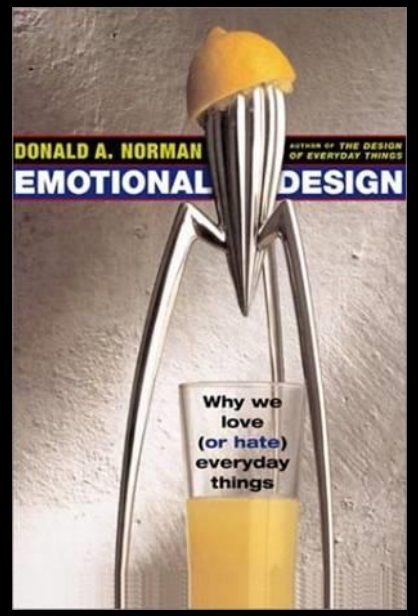
Cognitive (2nd) paradigm & VR

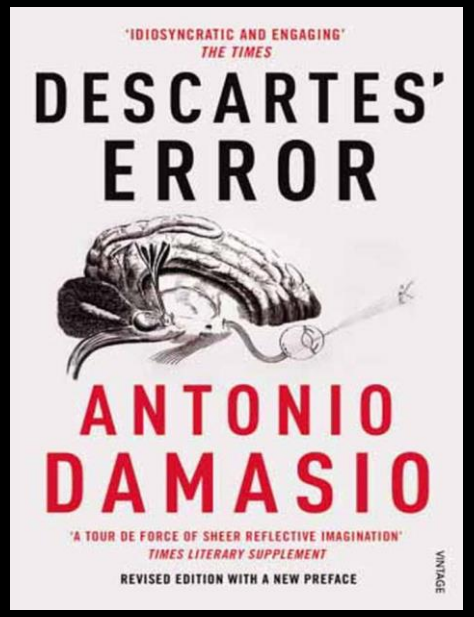
Cartesian split – mind/body

- Focus on conscious attention, memory, perception
- Marginalises somatic emotions, feelings, affects

VR embodiment?

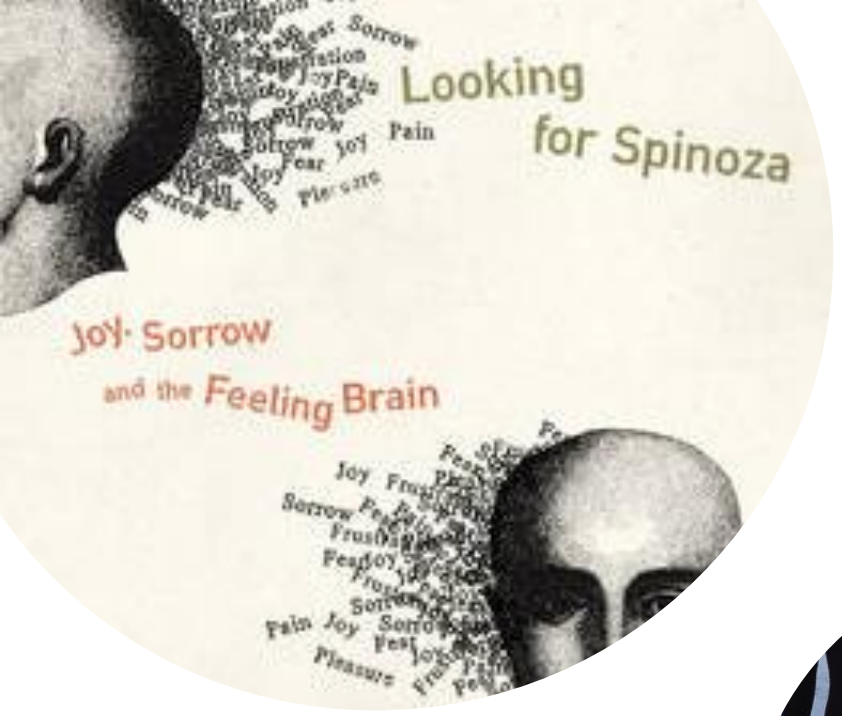
- GUI experience – metaphorical VR
- Leaving bodies behind
- Out of body (Metzinger)

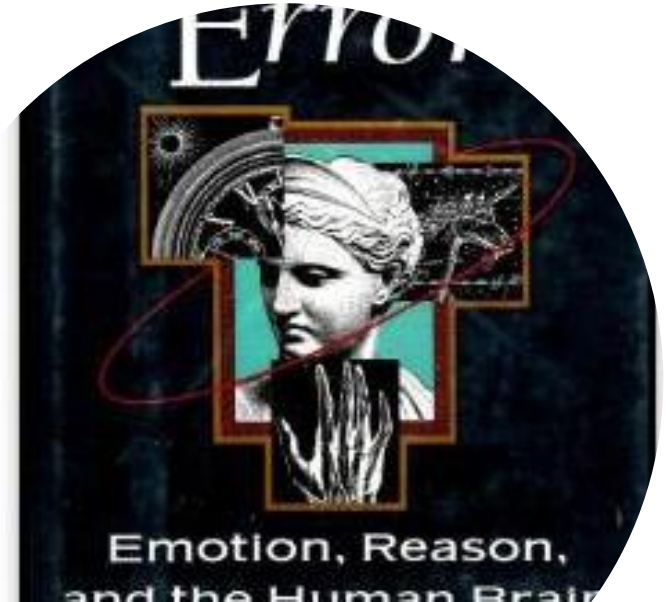




A Third Paradigm?

- "A wide range of approaches to emotion (**Picard, 1997; Norman, 2004**) **argue that emotion plays a central role in cognition and models emotional exchange as a type of information flow.**" Harrison, Tatar, Sengers





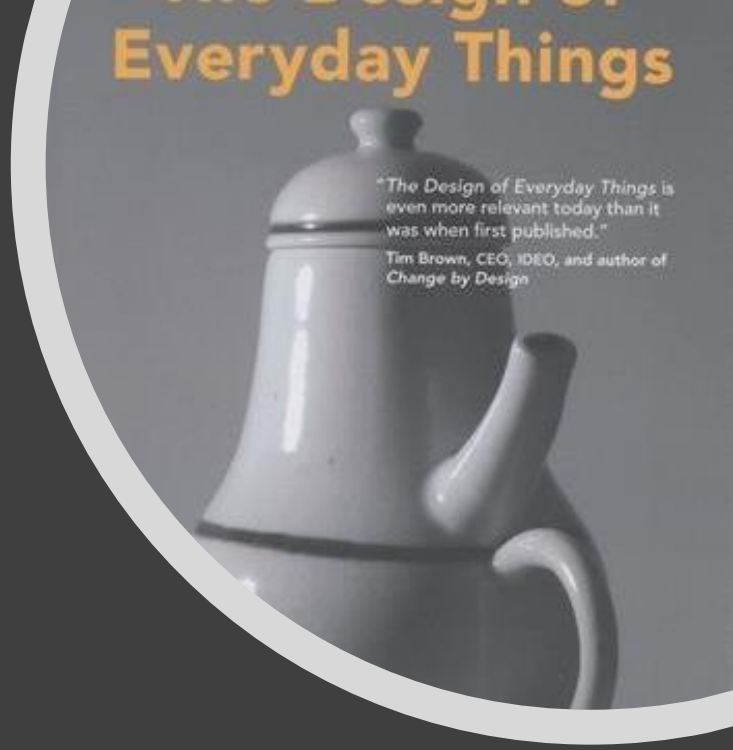
Somatic Emotional Experiences

Challenge posed to Rationalism by the Emotional Turn in Neuroscience

"An important aspect of the rationalist conception is that to obtain the best results, emotions must be kept out."

"Rational processing must be unencumbered by passion."

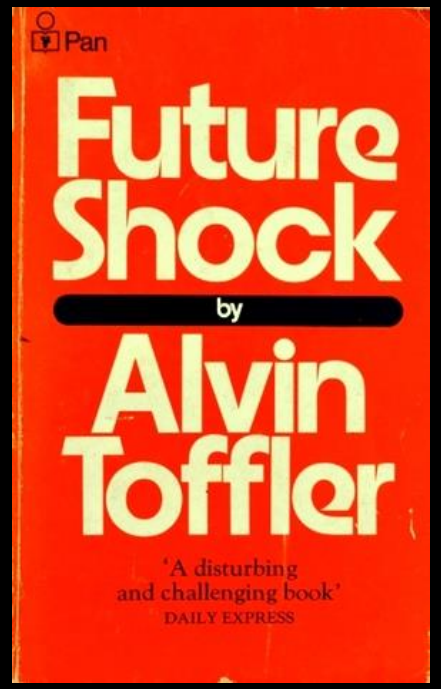
Influence of emotional turn in design, marketing, study of digital labour



Norman introduces processing of visceral level of experience

From Cognition to Affect in Design

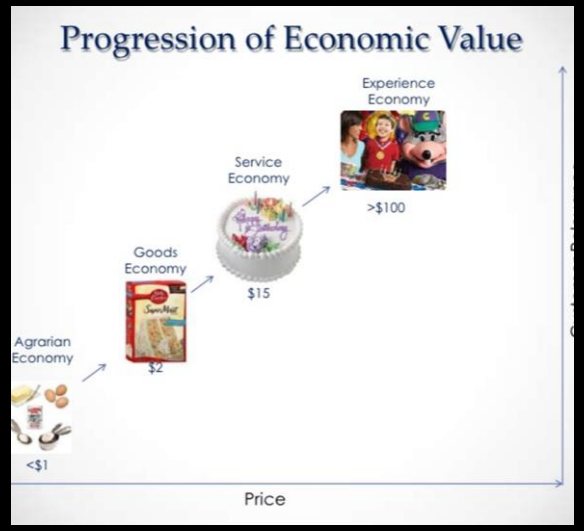
Experience industries



- "[The experience industries are] a revolutionary expansion of certain industries whose sole output consists not of manufactured goods, nor even ordinary services, but pre-programmed 'experiences'."
- "… the experience industry of the future and the great psychological corporations, or psych-corps... will dominate" (Toffler, 1970, 208-09)

Experience Economy

(Pine and Gilmore, 1999)



From Taylor's Factories to Disneyland Experience

New Contexts of Interaction:
move from 2D social to… ?

Immersive (down the VR rabbit hole, again :-)

Ubiquitous (turning VR inside out)

How do we grasp embodiment in these new contexts:

Media philosophy meets HCI philosophy

- **Third paradigm of HCI initially posed as a "phenomenological matrix"** (Dourish - Husserl, Heidegger, Merleau-Ponty)
- **Turn to new materialism & affect theory** (Patricia Clough on *The User Unconscious*)

- **A New Philosophy of [user] Experience**
  - Not all experiences are the same!
  - Racialized interactions (Ruha Benjamin)
  - Interplay of neuro-body-diversity
  - Not all experiences are human
  - Learning from a non-phenomenological philosophy of experience (Whitehead)
  - Non-human & more-than-human interactions
  - Subject of next A&SM conference

Diana Lengua PhD candidate in ACI

Begins with the notion of embodied interaction, and attempts to reconstruct the prerequisites for what META's founder now defines as the new era of the embodied internet.

The talk addresses

The notion of situated knowledge within HCI

And tackles the discursive-hype related to the great promises of a "not-so-new" immersive environment.

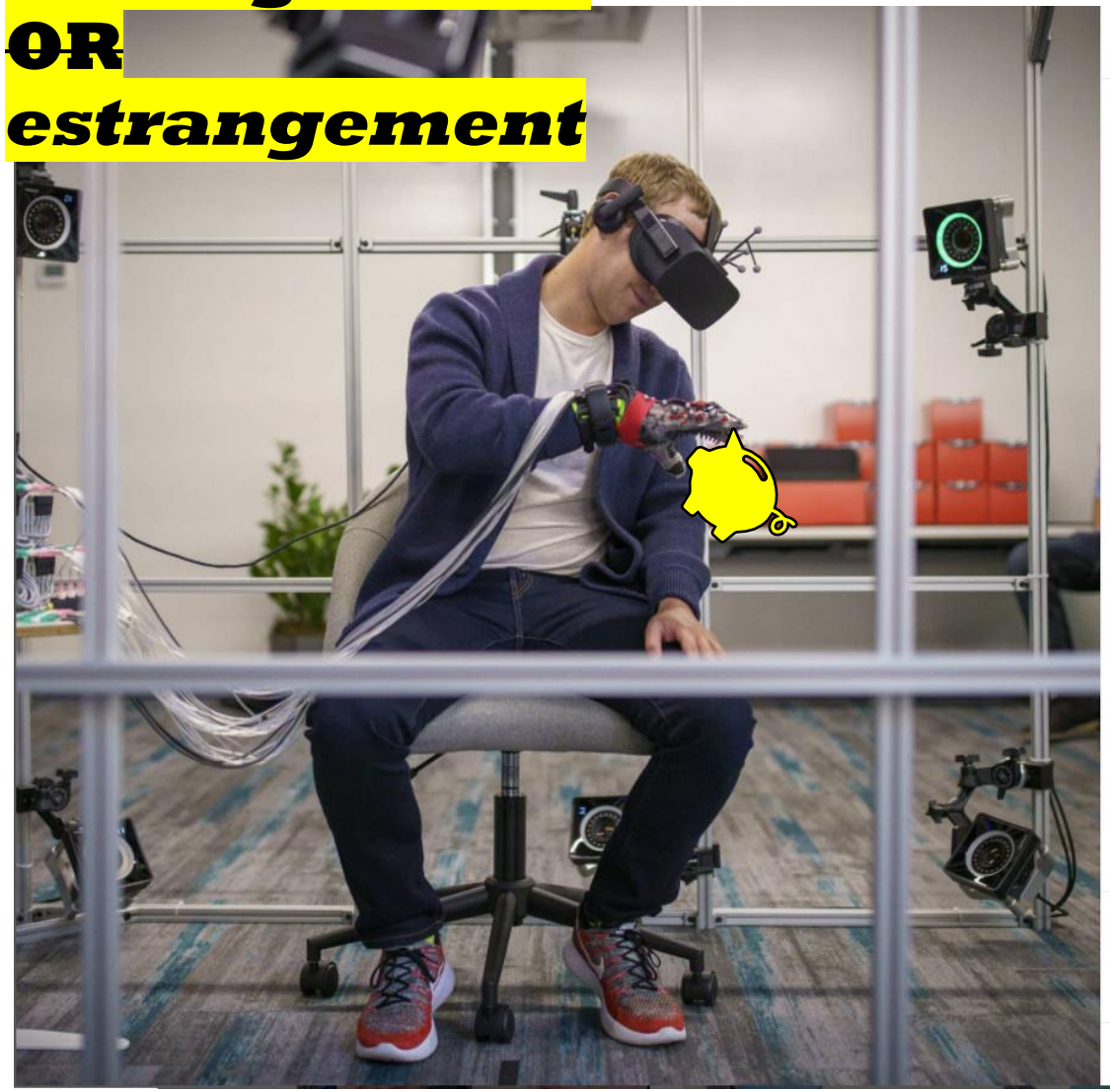

The next platform will be even more immersive — an embodied internet where you're in the experience, not just looking at it.
We call this the metaverse, and it will touch every product we build.

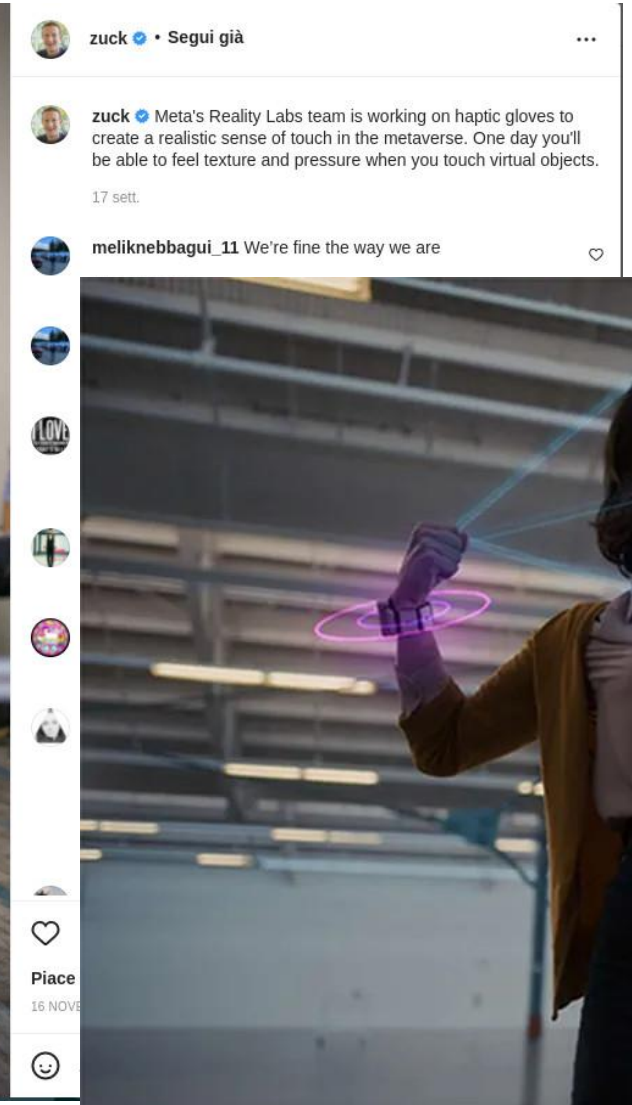
SEAT

SITUATED KNOWLEDGE

Embodied internet:

entanglement
~~OR~~ *estrangement*





Alex Thomas PhD candidate in Social Sciences

Introduces the transhumanist ideas of silicon immortality, radical abundance and morphological freedom tracking transhumanist fantasies from real life to VR and back again.

Alex will also consider the eschatological underpinnings of escaping embodiment in transhumanist discourse

Transhumanist Imaginaries of Immortality and Radical Abundance The Metaverse grafted upon reality?

Alexander Thomas

PhD Candidate in Social Sciences

What is Transhumanism?

- The idea that humans should transcend their current natural state and limitations through the use of technology.

-That is to say we should embrace self-directed human evolution.

- a life philosophy, an intellectual and cultural movement, and a subject of study

What is Transhumanism?

- Self-directed human evolution

- 3 Supers

- Carbon-based and Sillicon-based versions

-Morphological Freedom

Morphological Freedom

‘an extension of one’s right to one’s body, not just self-ownership but also the right to modify oneself according to one’s desires’ (Sandberg, 2013, p.56).

Converging NBIC

- Nanotechnology
- Biotechnology
- Information Technology
- Cognitive Science

Limitlessness – intelligence explosion

Let an ultraintelligent machine be defined as a machine that can far surpass all the intellectual activities of any man however clever. Since the design of machines is one of these intellectual activities, an ultraintelligent machine could design even better machines; there would then unquestionably be an ‘intelligence explosion,’ and the intelligence of man would be left far behind. Thus, the first ultraintelligent machine is the last invention that man need ever make (Good, 1965, p.33)

Victor Vinge - *Technological Singularity*

‘Within thirty years, we will have the technological means to create superhuman intelligence. Shortly after, the human era will be ended’ (Vinge, 1993)

Nanotech, APM and Radical Abundance

‘Coal and diamonds, sand and computer chips, cancer and healthy tissue: throughout history, variations in the arrangement of atoms have distinguished the cheap from the cherished, the diseased from the healthy. Arranged one way, atoms make up soil, air, and water; arranged another, they make up ripe strawberries’ (Drexler, 1985, p.3)

Nanotech, APM and Radical Abundance

‘The difference between the best times in life and the worst times is ultimately a difference in the way our atoms are arranged. In principle that’s amenable to technological innovation…This is the basic goal of transhumanism’ (Bostrum in Garreau, 2005, p.242).

APM ‘could help us abolish most disease and aging, make possible the reanimiation of cryonics patients, enable affordable space colonization and…lead to the rapid creation of vast arsenals of lethal or non-lethal weapons’ (Bostrum in Garreau, 2005, p.11).

Humanity in the Language of Computers

Humans are ‘suboptimal systems’ who ‘most people make the mistake of anthropomorphising themselves’ (Cannon cited in O’Connell, 2017, p.141).

The Posthuman Condition

‘humans, animals, and machines as information-processing devices receiving and transmitting signals to effect goal-directed behavior’ (Hayles, 1999, p.37)

Creates ‘the unwarranted conclusion that there is no essential difference between thought and code’ (Hayles, 1999, p.61).

‘Information viewed as pattern and not tied to a particular instantiation is information free to travel across time and space…it can be free from material constraints that govern the mortal world… we can achieve effective immortality’ (Hayles, 1999, p.13).

Reconfigurable nanobot swarms or...VR

Kurzweil's 2099 imaginary posthuman condition.

The Enlightenment and displaced eschatological desires.

Information essentialism…liberated from constraints of embodiment and interconnection.

Transhumanism as a well funded project

MIRI, FLI, Future of Humanity Institute, Seasteading (Peter Thiel)

Real world context – advanced capitalism

Radicalisation of inequality

Automation Unemployment

Capital to labour ratio

‘emancipation from human workers’ (Little, cited Carr, 2015, p.37),

‘the most important question in 21st-century economics may well be: What should we do with all the superfluous people?’ (Harari, 2017)

Surveillance Capitalism and Data Colonialism

‘forget the cliché that if it’s free, “You are the product”. You are not the product; you are the abandoned carcass. The product derives from the surplus that is ripped from your life’ (Zuboff, 2017, p.377).

Contestations of personhood and agency

‘As life itself, understood as bio-genetic information, becomes commodified, it equally becomes manipulable and hackable. Understandings of what constitutes corporeality, consciousness and individuality have always been contested, but now they emerge as significant stakes in projected re-definitions of legal personhood and considerations of rights accorded to species other than human’ (Shaw, 2015, p.1).

Transhumanists on precarious, colonised human…

Savulescu – Whose Moral Upgrade?

‘Bermuda Triangle of Extinction’: radical technological power, liberal democracy and human moral nature (2009)

The God Machine – instrumentalised ethics

‘extensive surveillance by the state…setting aside what people in liberal democracies have come to regard as rights, in particular the right to privacy’ (Persson & Savulescu 2012, p.125).

Steve Fuller – Humanity 2.0 – Becoming God

‘the proactionary state would operate like a venture capitalist writ large’ (Fuller & Lipinska, 2014, p.42).

Humanity 1.0 v Humanity 2.0 – rights and duties.

‘Conceptualise our genetic material as property that one is entitled, and perhaps even obliged, to dispose of as inherited capital’ (Fuller & Lipinska, 2014, p.32)

‘personal autonomy should be seen as a politically licensed franchise whereby individuals understand their bodies as akin to plots of land in what might be called the “genetic commons”’ (Fuller & Lipinska, 2014, pp.69-70).

Steve Fuller – Necronomics

‘understanding the mindset of today’s suicide bombers would not go amiss…ordinary acts of murder may even come to be routinely defended…if a physically fit but socially dysfunctional person refuses to make a graceful departure from the land of the living’ (2019, p.168).

‘evolution favours mass extinctions, as these open up previously occupied ecological niches in ways that allow the surviving organisms to explore previously untapped phenotypes as they fill those niches with offspring’ (2019, p.192).

Nick Bostrum – Our Cosmic Endowment

$10^{\wedge 29}$ potential human lives are wasted every second that we are not colonizing the Virgo Supercluster with computer generated minds of human equivalence.

'the expected value of reducing existential risk by a mere *one billionth of one billionth of one percentage point* is worth a hundred billion times as much as a billion human lives' (2012, n.p.).

Pre-eptive war, mass surveillance, human catastrophes as mere ripples

Potential ecologies of genocide

Deadly power, eschatological fervour, deep inequities and surplus populations.

VR as saviour!...or genocidal tool?

VR as ‘moral imperative’

‘Everyone wants to have a happy life but it's going to be impossible to give everyone everything they want…Virtual reality can make it so anyone anywhere can have these experiences’ (Luckey cited in Chace, 2016, p.236).

‘if people are having a virtually happy life, they are having a happy life. Period’ (Carmack, cited in Au, 2016).

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Q&A

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