Stealth Care: *wellness from the algorithm*

Can the quantified self serve the ill body?

CREATOR

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ACKNOWLEDGEMENTS

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BACKGROUND

As an artist shaped by my lived experience with a progressive neurological disease and a recently diagnosed rare muscular disease, I find myself intrigued by the intersection of art, science, and the human body. My project, *Stealth Care: Wellness from the Algorithm*, explores how personal biological health data and A.I can drive and empower patient-driven care. Central to this inquiry was the research question: **can the quantified self serve the ill body?** As someone with an extensive medical data profile, I sought to understand when my biological data becomes the focal point, separated from non-normative measurements, and untethered from the exploitation of third-party health data frameworks, what will it unveil?

METHODOLOGY + RESULTS

Our study combined scientific data collection, machine learning, and artistic practice-led research, focusing on N=1 through daily tracking with a wearable Electromyography (EMG) device. This approach, augmented by daily questionnaires, provided both quantitative and qualitative health data. Collaborating with Nathanya Queby Satriani, an AI Data Science student, we used machine learning to identify patterns predicting the need for rest, integrating this with a treatment approach for my illness and disability.

Queby developed a **Recurrent Neural Network** model, achieving 100% prediction accuracy for muscle fatigue over a 7-day test period using 20 days of EMG data. This shows potential for real-time muscle activity monitoring but has overfitting concerns due to the limited dataset.

Our ongoing collaboration has the potential to explore a new ML interface for enhancing wellness, emphasizing the quantified self's role in health.
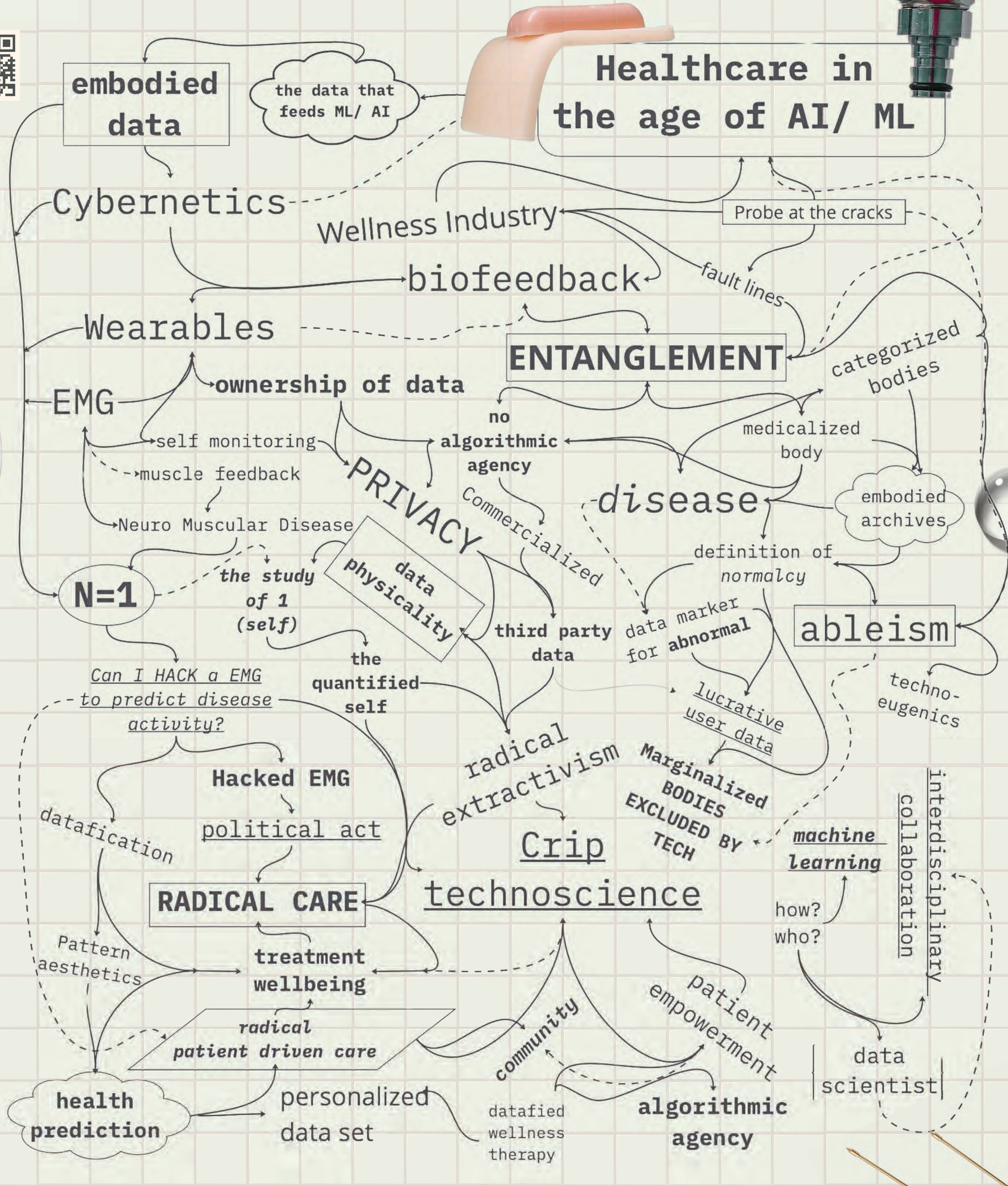
DATA SENSEMAKING

But how do I make sense of the data and results?

Exploring materiality using found objects, the installation transformed an unassuming bathroom of IT: U Into an immersive space influenced by the aesthetics of hospitals, wellness spas, and the Austrian sauna culture. The installation visualizes my EMG data through **cymatics**, giving physicality to the unseen frequencies of my muscles. Re-embodying my muscle frequencies aims to bridge the clinical data with human experience but also explores these frequencies as a form of speculative therapy, suggesting new, uncharted pathways in personal wellness and patient-driven care.

KEYWORDS

Wearable technology, Biological Data, Machine Learning/ Artificial Intelligence, self-tracking, Illness and Disability, Patient-driven care, Algorithmic Agency

Visit website for further information

Diagram / concept map text:

embodied data

the data that feeds ML/ AI

Healthcare in the age of AI/ ML

Cybernetics

Wellness Industry

Probe at the cracks

biofeedback

fault lines

Wearables

ENTANGLEMENT

categorized bodies

EMG

ownership of data

no algorithmic agency

medicalized body

self monitoring

muscle feedback

PRIVACY

Commercialized

disease

embodied archives

Neuro Muscular Disease

data physicality

definition of normalcy

N=1

the study of 1 (self)

third party data

data marker for abnormal

ableism

Can I HACK a EMG to predict disease activity?

the quantified self

lucrative user data

techno-eugenics

Hacked EMG

radical extractivism

Marginalized BODIES EXCLUDED BY TECH

datafication

political act

machine learning

interdisciplinary collaboration

RADICAL CARE

Crip technoscience

how? who?

Pattern aesthetics

treatment wellbeing

patient empowerment

data scientist

radical patient driven care

community

health prediction

personalized data set

datafied wellness therapy

algorithmic agency

IT:U x Ars Electronica FOUNDING LAB

ARS ELECTRONICA Art, Technology & Society

IT:U interdisciplinary transformation university austria

Federal Ministry Republic of Austria Education, Science and Research