

Reimagining AI Systems to Challenge Structural Silences

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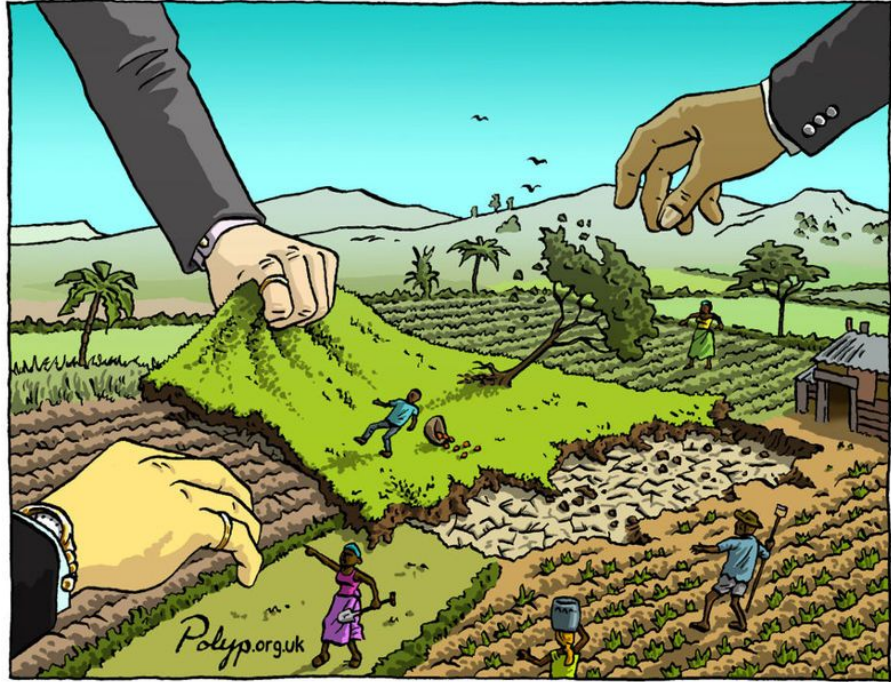
Civilization



<https://tinyurl.com/bdxbexwf>

Colonialism and Land Grabbing - The 4X Logic

- E~~x~~plore
- E~~x~~pand
- E~~x~~ploit
- E~~x~~terminate



<https://tinyurl.com/mry959j7>

From Land Grab to Data Grab

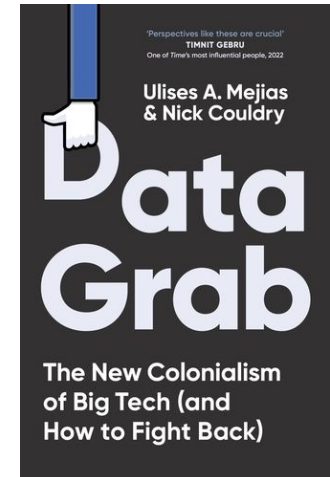
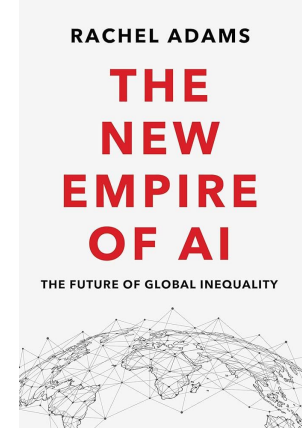
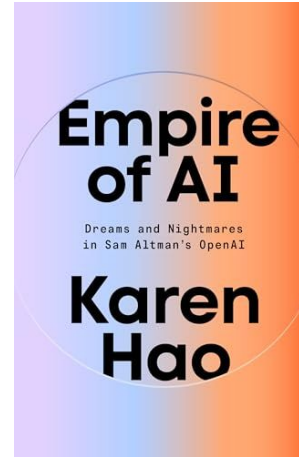
- Colonialism: terra nullius → “empty land” free for taking
- Data colonialism: data nullius → “empty data” free for capture



<https://tinyurl.com/39w2zfkf>

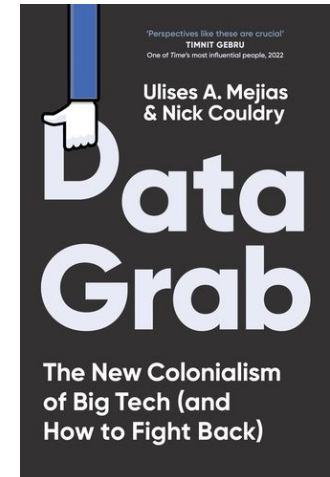
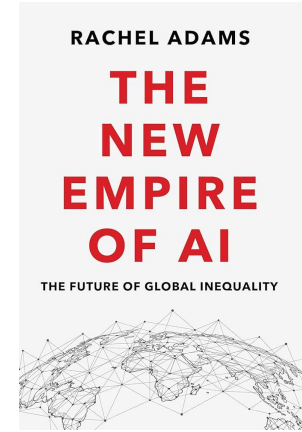
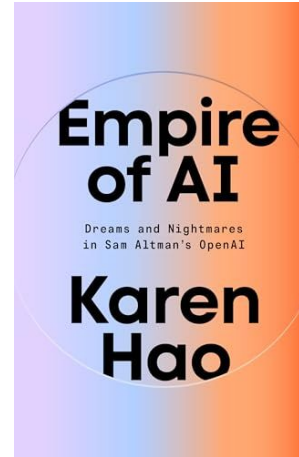
Empire of AI

- Explore
 - new territories → new datasets



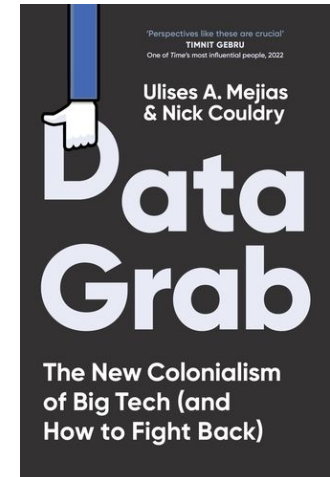
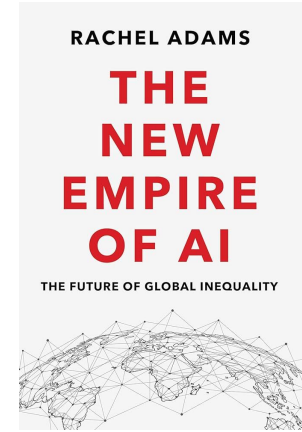
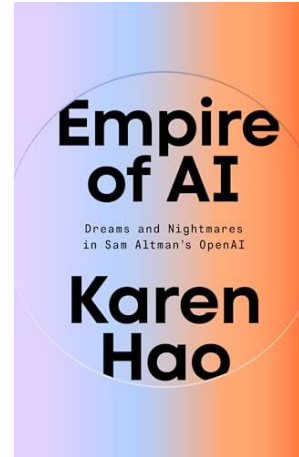
Empire of AI

- **Ex**plore
 - new territories → new **datasets**
- **Ex**pand
 - settlement → **platformization**



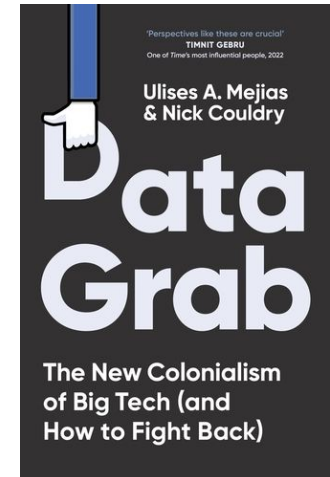
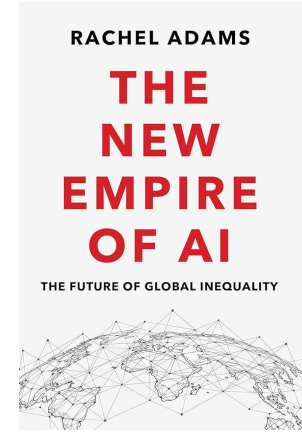
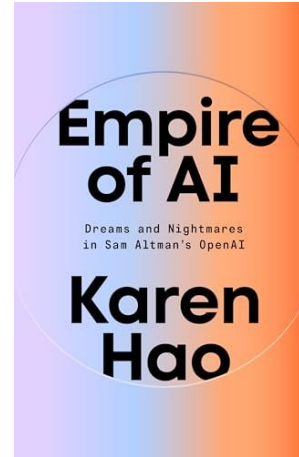
Empire of AI

- **Ex**plore
 - new territories → new **datasets**
- **Ex**pand
 - settlement → **platformization**
- **Ex**loit
 - resource, labor → resource, labor, **data**



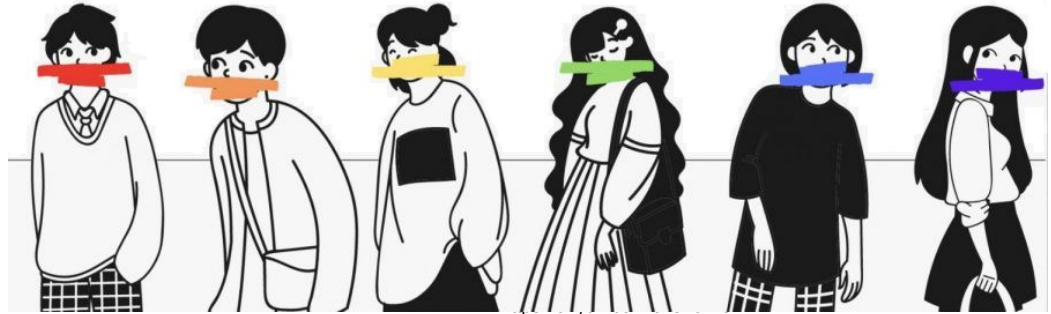
Empire of AI

- **Ex**plore
 - new territories → new **datasets**
- **Ex**pand
 - settlement → **platformization**
- **Ex**loit
 - resource, labor → resource, labor, **data**
- **Ex**terminate
 - erasure of peoples and knowledge → **algorithmic exclusion**



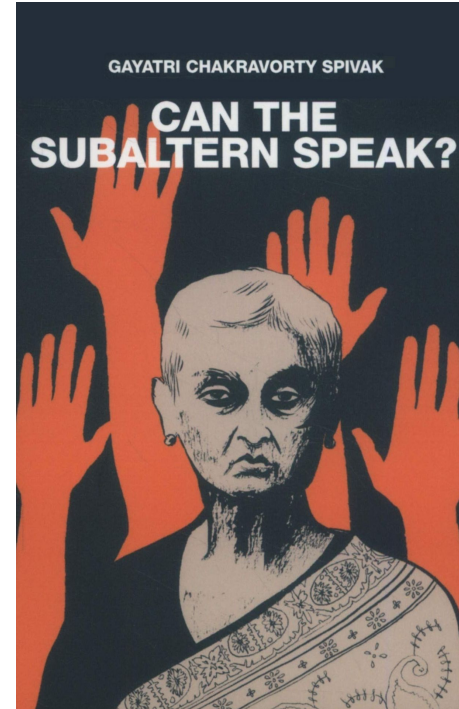
Impact of Data Colonialism

- Silences **marginalized** voices
- Erases **narratives**
- Perpetuates **oppression**



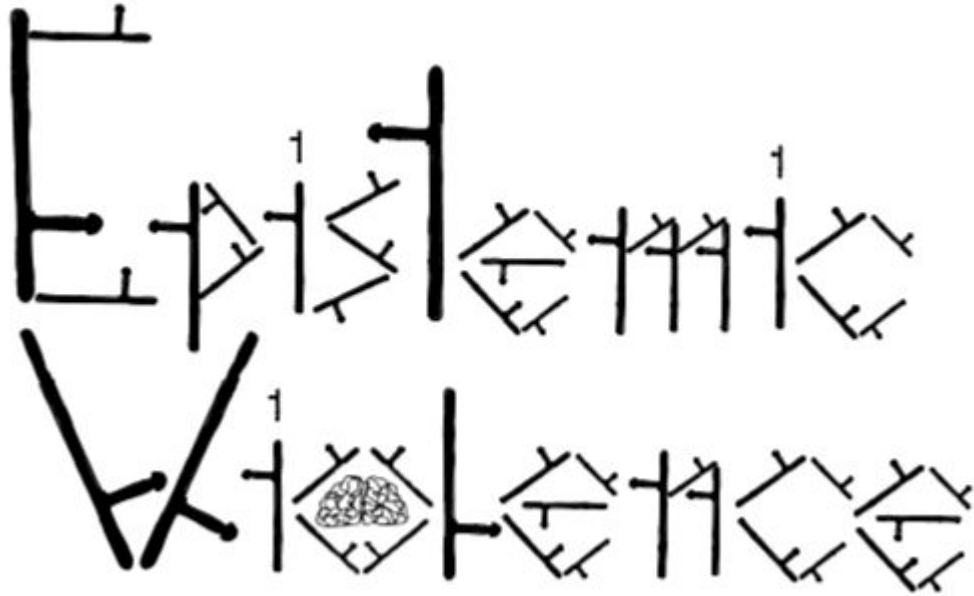
Epistemic Violence - Gayatri Chakravorty Spivak

- The harm caused silencing or invalidating marginalized knowledge and voices.



Epistemic Violence In AI

- Biased data
- Missing data
- Data exploitation
- Data omission



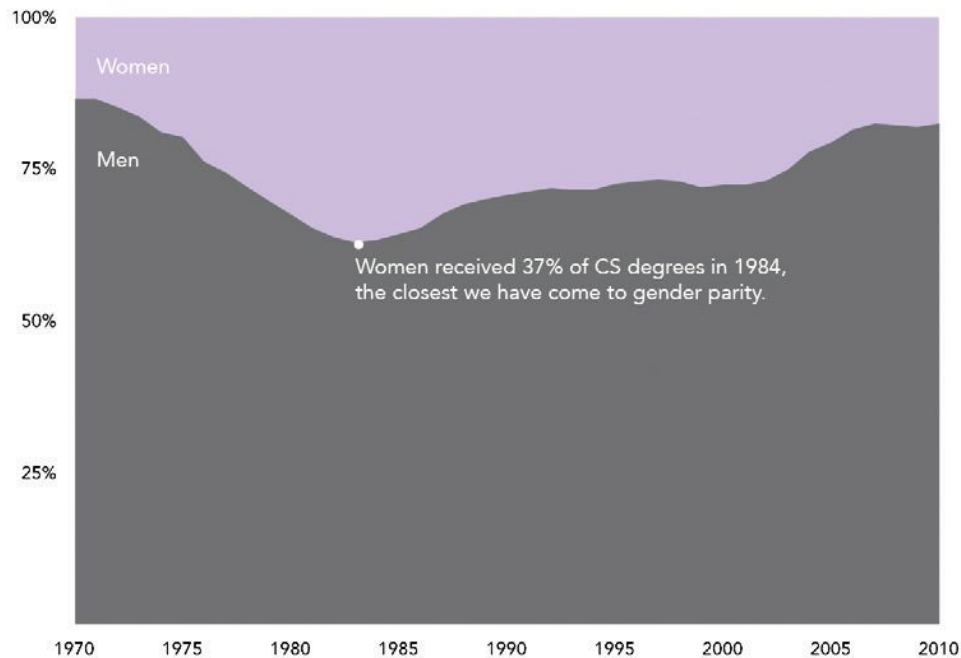
Biased Data



Data Science by Whom?

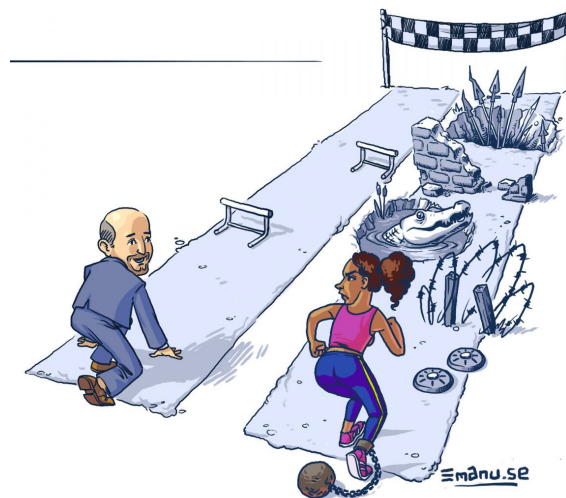
Computer Science, the Man Factory

Computer science bachelor's degrees awarded by gender in the United States, 1970–2010



Privilege Hazard

- Those in the **positions** to make decisions are **unaware** of the **potential harms**.



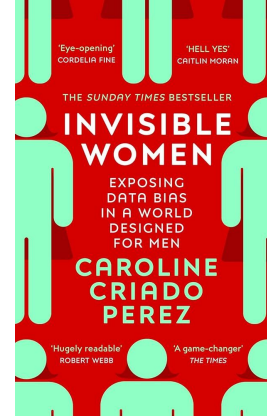
"What's the matter?
It's the same distance!"

Src: Tompkins County Structural Racism



The Harm of Biased Data

- Healthcare and medical research
- Urban planning and public transportation
- Workplace design
- Crash test dummies
- Smartphone design

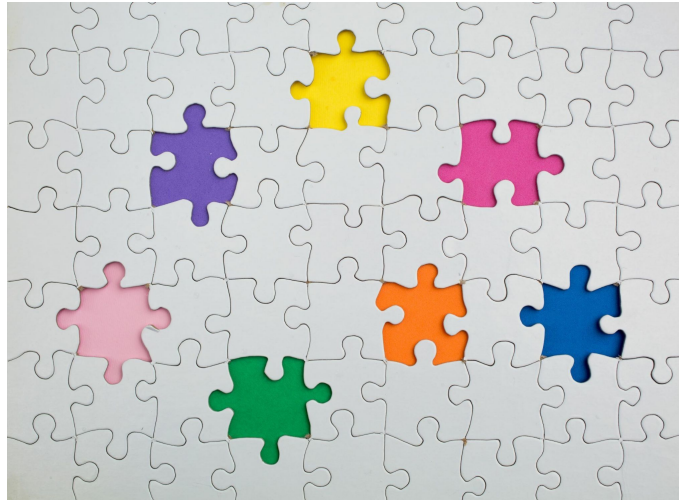


Missing Data



Data Science for Whom?

- Effects of the **privilege hazard**: not only that datasets are **biased** or **unrepresentative**, but that they **never get collected at all**.



<https://tinyurl.com/y24uh7wr>



The Library of Missing Datasets - Mimi Onuoha

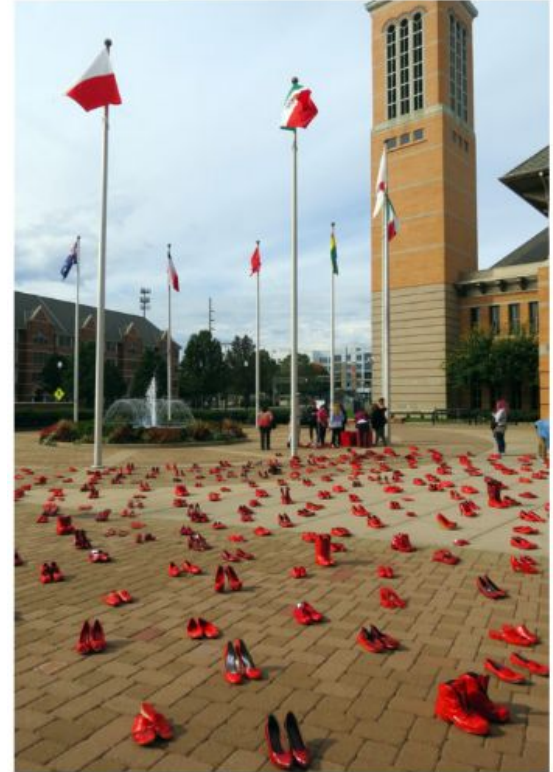


<https://tinyurl.com/3dk49rdu>



Feminicide and Silence

- The **murder** of a **woman** by a **man** because of her **gender**.
- Few convictions, deep state **neglect**.
- **Missing data = missing accountability**



<https://tinyurl.com/mry7xe5c>



Data Exploitation



Data Exploitation

- Extracting **value** from data, often **without consent** or **transparency**.



<https://tinyurl.com/mpjzct88>



Data Exploitation in Surveillance and Policing

- Predictive policing
- Facial recognition
- Social media monitoring
- Data sharing



<https://tinyurl.com/yc52trd4>

How Companies Learn Your Secrets?

How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did <https://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figur...>

Feb 16, 2012, 11:02am EST

How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did



Kashmir Hill Former Staff

Tech

Welcome to *The Not-So Private Parts* where technology & privacy collide

Follow

🕒 This article is more than 10 years old.

Every time you go shopping, you share intimate details about your consumption patterns with retailers. And many of those retailers are studying those details to figure out what you like, what you need, and which coupons are most likely to make you happy. Target, for example, has figured out how to data-mine its way into your womb, to figure out whether you have a baby on the way long before you need to start buying diapers.



Target has got you in its aim

Charles Duhigg outlines in the *New York Times* how Target tries to hook parents-to-be at that crucial moment before they turn into rampant -- and loyal -- buyers of all things pastel, plastic, and miniature. He talked to Target statistician Andrew Pole -- before Target freaked out and cut off all communications -- about the clues to a customer's impending bundle of joy. Target assigns every customer a



<https://tinyurl.com/44smnnhx>

Data Omission



Epistemic Violence and Data Cleaning

- Data cleaning is considered a crucial part of data science.



Epistemic Violence and Data Cleaning

- Data cleaning is considered a crucial part of data science.
- What might be lost in this process?



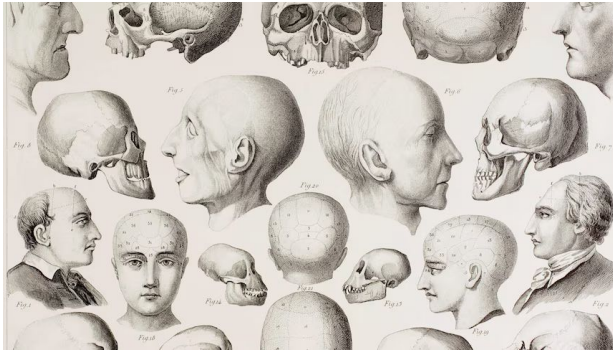
Epistemic Violence and Data Cleaning

- Data cleaning is considered a crucial part of data science.
- What might be lost in this process?
- Whose perspectives might be lost in this process?
- Whose perspectives might be additionally imposed?



Historical Roots of Cleanliness

- Ideas of data **cleanliness** have historical ties to **eugenics**.



<https://tinyurl.com/4b9j47yd>

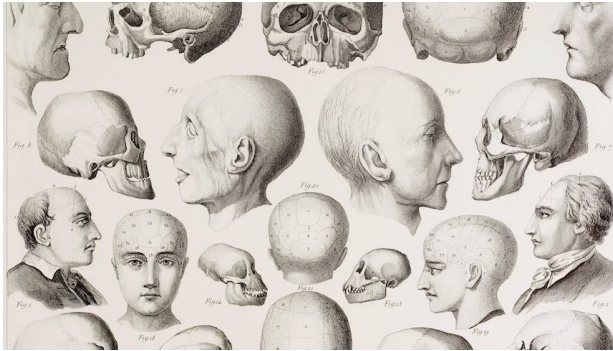


<https://tinyurl.com/ydv28yh7>



Historical Roots of Cleanliness

- Ideas of data **cleanliness** have historical ties to **eugenics**.
- Early statisticians like **Pearson** and **Galton** were also leaders in the **eugenics movement**.



<https://tinyurl.com/4b9j47yd>



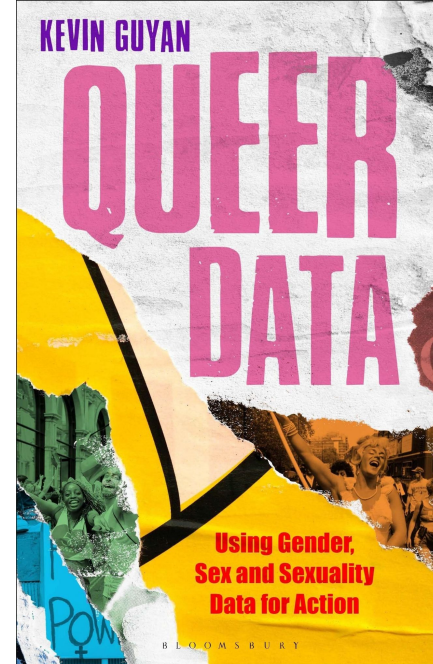
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The Root that Extended to the Present

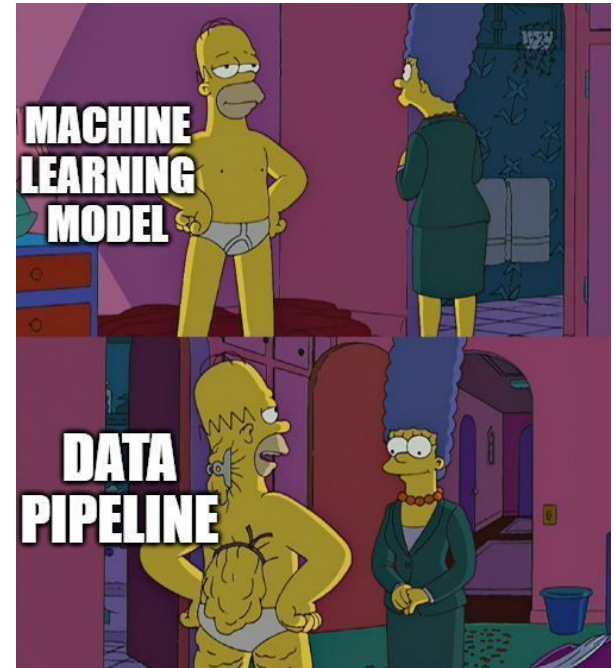


<https://tinyurl.com/3cvnzjvu>



AI Pipelines

- Standard view: Data → Processing → Prediction → Action
- Not linear; it's a global supply chain



Data Omission Environmental Harm



Carbon Emission



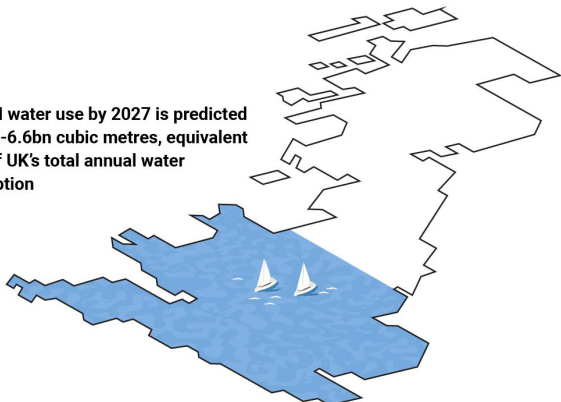
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Energy and Water for Computation

- Data centers consume massive amounts of **energy** and **water**

By 2027

Global AI water use by 2027 is predicted to be 4.2-6.6bn cubic metres, equivalent to half of UK's total annual water consumption

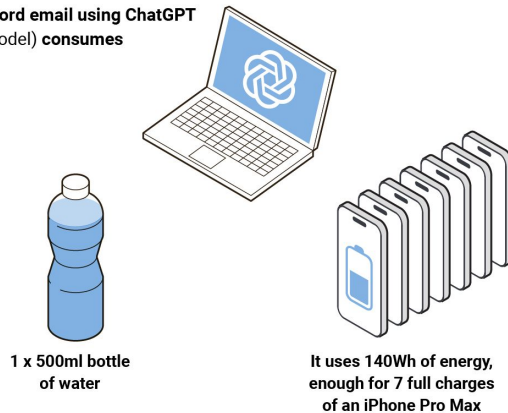


<https://tinyurl.com/z9rex5va>

AI water

Tech giants have significantly increased their water needs for cooling data centres due to the escalating demand for AI products

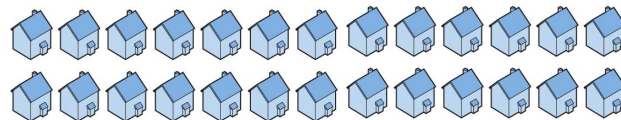
Writing a 100-word email using ChatGPT (GPT-4, latest model) **consumes**



1 x 500ml bottle of water

It uses 140Wh of energy, enough for 7 full charges of an iPhone Pro Max

Creating GPT-3 (the training part) uses



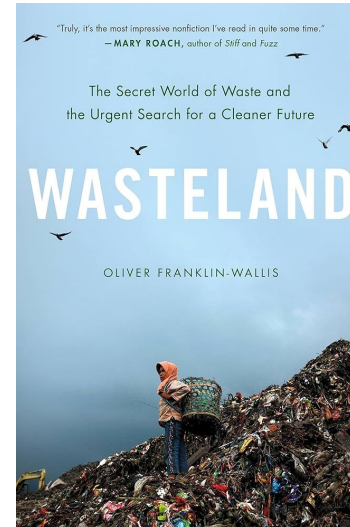
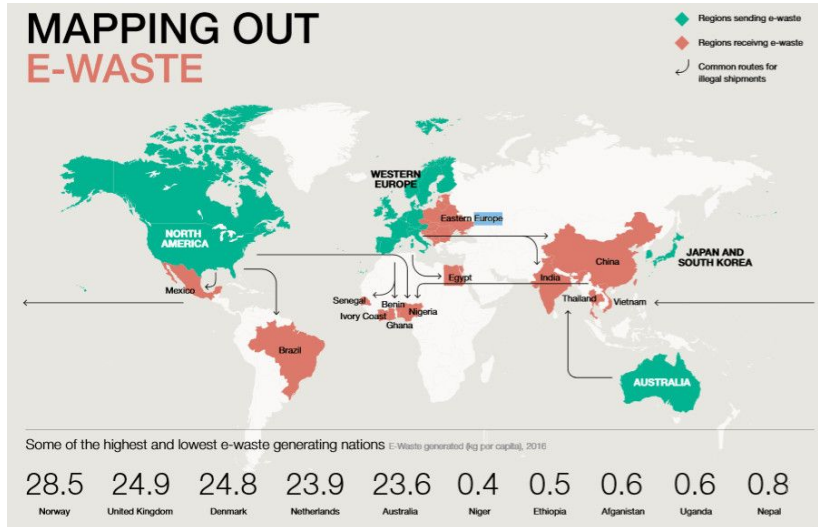
5.4m litres of water, equivalent to the annual water usage of 26 UK households (based on a family of four people)

<https://tinyurl.com/z9rex5va>



Disposal

- E-waste is the **fastest-growing waste** stream in the world
- **75-80%** of e-waste is shipped to countries in **Africa** and **Asia**

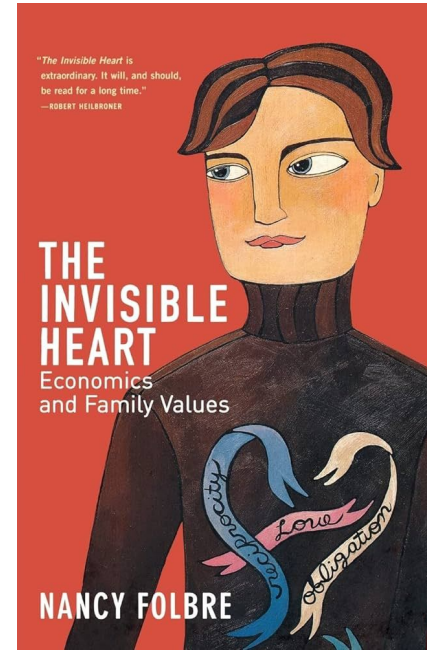
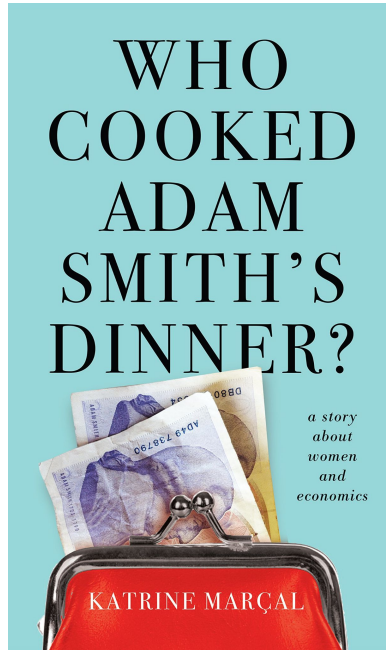
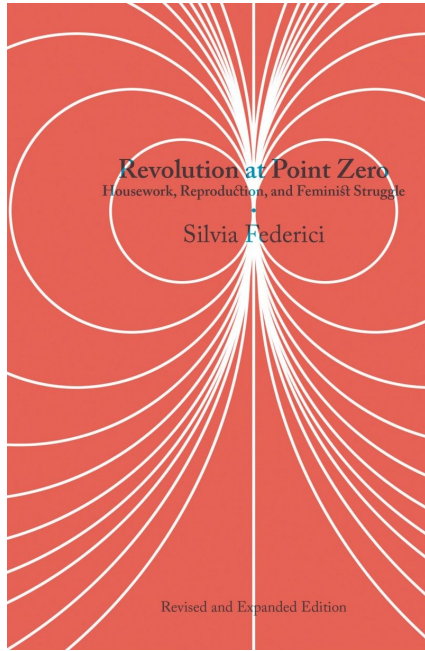


Data Omission

Invisible Labor

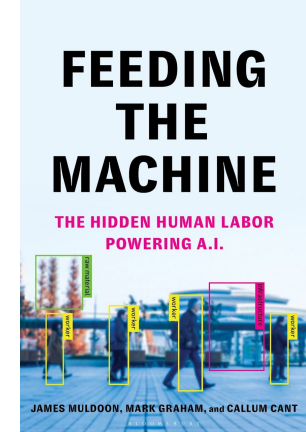
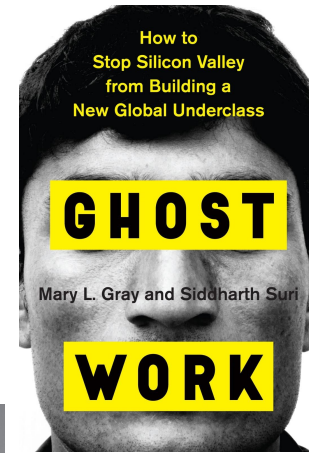


Invisible Labor

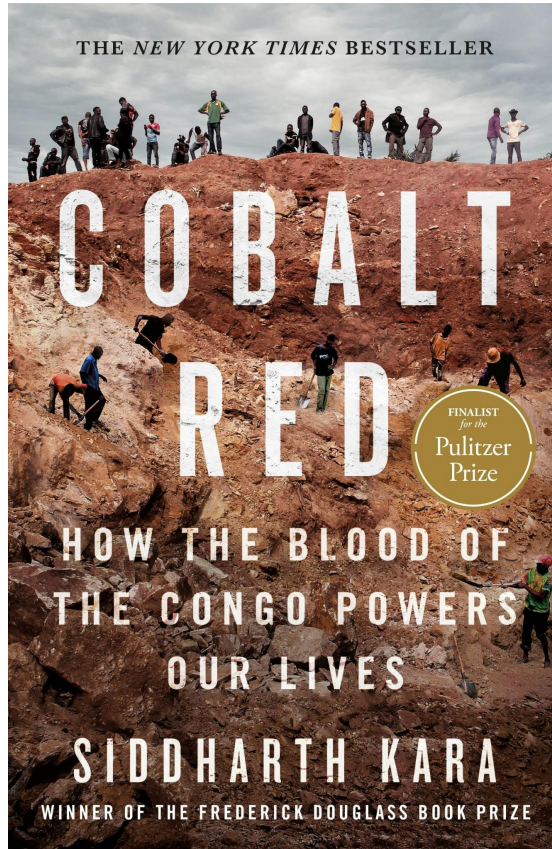


Invisible Digital Labor

- AI depends on **hidden human labor**
- **Low-paid, risky,** and often **ignored**



Resource Extraction



Manufacturing

- Devices are assembled in offshore factories
- Toxic exposure and repetitive injuries



<https://tinyurl.com/7xxadr4e>

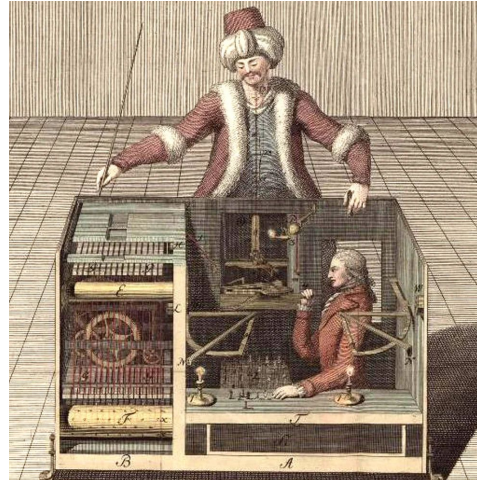


Data Workers

- **Army of workers** to handle **discrete, repetitive tasks**.



<https://tinyurl.com/37mdyvhk>



<https://tinyurl.com/4a7uu2vn>

Alternative Approaches



Ecofeminism

- A **praxis** linking **environmental** and **social** justice
- Emerged in the 1970s through **anti-nuclear**, **Indigenous**, and **women's movements** (e.g., the **Chipko** movement)



<https://tinyurl.com/ut23hcp5>



<https://tinyurl.com/mt93dhub>

Ecofeminist AI

- Reimagines AI as a **relational**, **ecological**, and **justice-centered** practice
- Ask: Who **builds**? Who **benefits**? Who is **erased**?

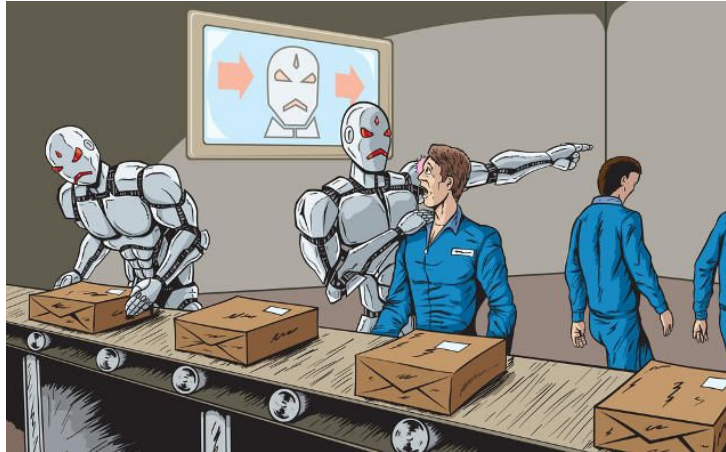


<https://tinyurl.com/bdd38b5s>



Capitalist AI Goals and Values

- **Goals:** profit maximization, market dominance
- **Values:** efficiency and optimization, extraction, competition, abstraction



<https://tinyurl.com/5n8czxfz>



Ecofeminist AI Goals and Values

- **Goals:** co-liberation, justice
- **Values:** caring, equity and solidarity, plurality and epistemic justice



<https://tinyurl.com/mpm2m38b>



Moving From Ethics to Justice

- **Ethics** often **individualizes** responsibility (e.g., bias audits)



<https://tinyurl.com/4k84k4rr>



Moving From Ethics to Justice

- **Ethics** often **individualizes** responsibility (e.g., bias audits)
- **Justice** focuses on **structural** change and **collective agency**



<https://tinyurl.com/4k84k4rr>



Co-Liberative Computing

- Developed **WITH** affected communities, **not FOR** affected communities



<https://tinyurl.com/mrxy76mz>

Co-Liberative Computing

- Developed **WITH** affected communities, **not FOR** affected communities
- Valuing various **perspectives** at **all stages** of the process, from **data collection** to **cleaning** to **analysis** to **communication**.



<https://tinyurl.com/mrxy76mz>

Thanks!

