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# The case for computation



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in media and information literacy



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# Centre for Critical Media Literacy

Students using social media to enhance transparency in local journalism



Transdisciplinary research that brings computation expertise to media studies

[Like, Post, Share, Buy: the Commercial Value of Affective Networking on Social Media](#)

*Cáitríona Murphy*

[Text Analytics Techniques in the Digital World: Word Embedding and Bias](#)

*Marisa Llorens*

[Text Analytics Techniques in the Digital World: a Sentiment Analysis Case Study of the Coverage of Climate Change on News Networks](#)

*Jerome Casey*

[The Self and Other: Portraying Israeli and Palestinian Identity on Twitter](#)

*Jason Deegan, John Hogan, Sharon Feeney, and Brendan O'Rourke*

[Data Protection and Privacy for Media and Individuals Under EU Law](#)

*Sarah Kearney*

[Quantum Computational Supremacy: Security and Vulnerability in a New Paradigm](#)

*Deborah Brennan*

[Is Google Self-aware?](#)

*Gerry Heapes*

[A Comparison of the Models and Methods of Surveillance in Germany and Northern Ireland and Their Relevance to Modern-day Securitization of Society](#)

*Clodhna Pierce*



# LITERACY

is not the same as understanding



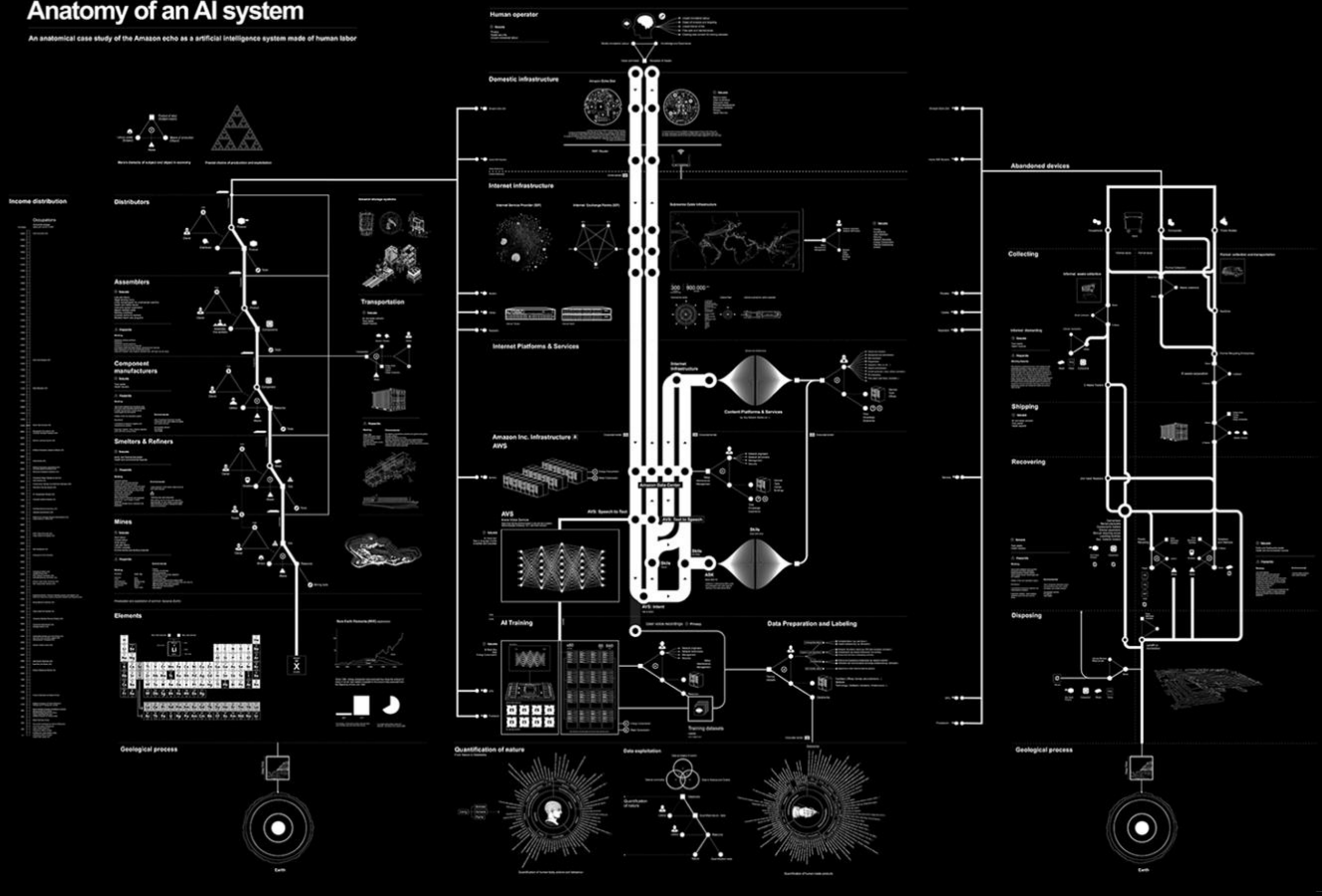
'True literacy... goes beyond a system's functional use to comprehend its context and consequences. It refuses to see the application of any one system as a cure-all, insisting upon the interrelationships of systems...'

James Bridle, *New Dark Age*  
(Verso 2018, p3)



# Anatomy of an AI system

An anatomical case study of the Amazon echo as a artificial intelligence system made of human labor



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# Assemblers

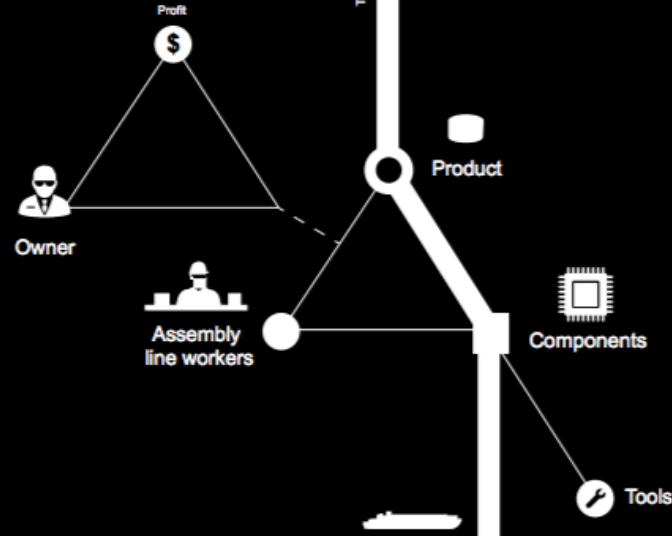
## ① Issues

Low paid labour  
Illegal working hours,  
Unfair compensation for unscheduled overtime  
Health and Safety issues  
Internship system exploitation  
Migrant workers rights  
Working conditions  
Crowded dorms for workers  
Workers health care programs

## ⚠ Hazards

### Working

Hazardous working conditions  
Explosions  
Hazardous chemical exposure  
Exposure to dust and toxic substances  
Inconsistent health and safety policies, procedures and practices  
Major depression and the risk of attempted suicide  
Ergonomic hazards : body positions, repetitive work, shift work, and job stress



# Component manufacturers

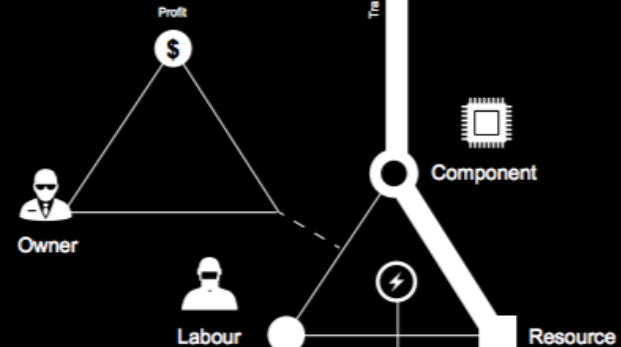
## ① Issues

Toxic waste  
Health hazards

## ⚠ Hazards

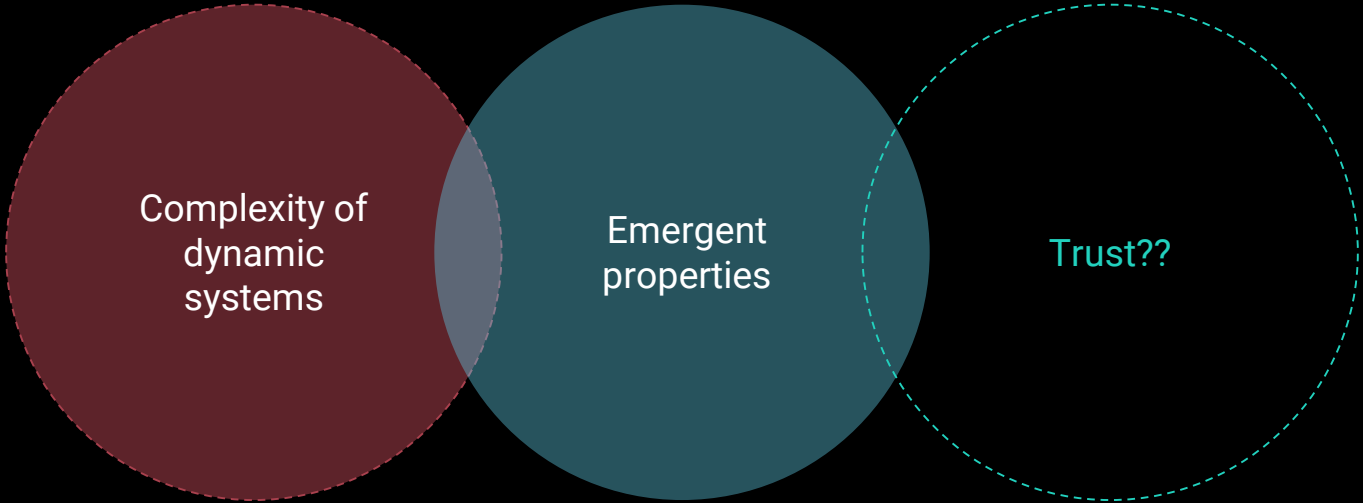
### Working

Use of toxic materials such as arsine, phosphine and others potentially expose workers to health hazards which include cancer.



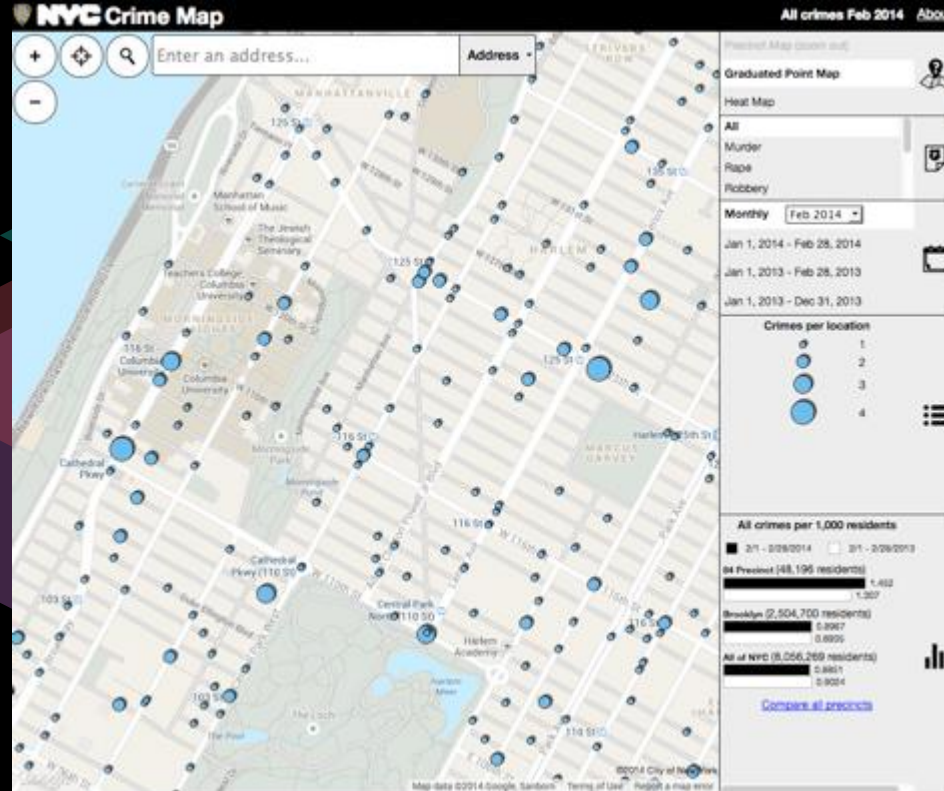


# Not just 'technology', but computation



# Unintended consequences

New York's Compstat crime data system







# Dublin, Europe's data centre





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RESTRICTED  
PARKING

WARNING

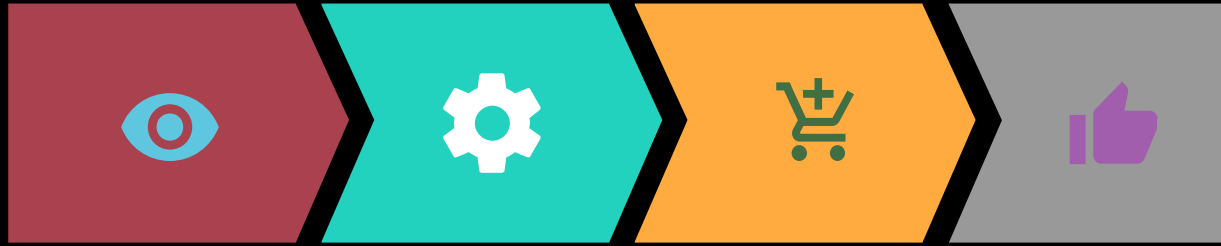




'If I told you, I'd have to kill you.'

# The evolution of systems and software

There is a misconception that there is a smooth and clear relationship from intention through design to implementation. Computational literacy says otherwise



## The Vision

Most of us think we understand the intended purposes of systems we use.

## Engineering

Software is dependent on inputs, assumptions – so prone to inaccuracy, manipulation.

## Capitalism

Imperatives of revenue may be partially hidden in the process.

## Untrustworthy

Who bred this system? In whose interest? With what tests and controls? Where is it going?





From GDPR to Chinese quantum satellites, from Brexit to the evolution of manipulative AI and bots in the time between the 2016 and 2020 US elections, understanding computation won't 'restore trust' and 'fix media', but rather lead to deeper and better questions about these issues.





# Thank You!



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