The case for computation in media and information literacy

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Students using social media to enhance transparency in local journalism

Transdisciplinary research that brings computation expertise to media studies
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 extensive review of the necessary areas of a software intelligence system with human labor.
Assemblers

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
  - Exposure
  - 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

Issues
- Toxic waste
- Health hazards

Hazards
- Working
  - Use of toxic materials such as solvents, phosphines, and others that can be harmful to workers
Not just ‘technology’, but computation

- Complexity of dynamic systems
- Emergent properties
- Trust??
Unintended consequences

New York’s Compstat crime data system
Dublin, Europe’s data centre
‘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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