Accountability

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Algorithmic Accountability (Diakopoulos, Nicholas 2015)

- **Computational Journalism:** making Computation the *Object* of Journalism
- **Decisions of Algorithms:** Prioritization, Classification, Association and Filtering
- **Accountability:** Intent of Creators, Agency of Human Actors
- **Transparency:** sufficient motive of creators necessary, trade secrets are an impediment, fear of gaming / manipulation of the algorithm, bad press
- For from complete solution to balance power, **Reverse Engineering** explored as an additional method to scrutinize algorithm (Autocompletion on Google, Targeting of political E-Mails, Price Discrimination, …)
- **Problems:** Identification of algorithms, Sampling Input/Output Relationship, Finding the story

Deadly Algorithms (Schuppli, Susan 2014)

- Decisions about who can be killed is outsourced to tech (signature-strikes)
- Accountability of humans: foreseeability, reasonable effort, preemptiveness
- Accountability of machines: blaming designer / creator of product
- Assigning Responsibility even harder when machines and humans work together
- Decision making governed by its ability to learn, independent of human oversight → recoding the law, since old regulatory models don't transfer well to autonomous systems
- Broadening reach of legal responsibility

Bearing Account-Able Witness to the Ethical Algorithmic System (Neyland, Daniel 2016)

- "Ethical" Algorithmic Surveillance System: reduce visible data, delete unnecessary data, no development of new algorithms
- Reporting of ethical questions and problems during the development, from the inside and the outside view (ethics-board)
- Transparency: Readable IF-THEN rules that trigger system, clear definition of events of relevance (intrusion, counter-flow, abandoned-luggage)
- Participation: Operators decision of relevance of footage

Governance of Algorithms (Saurwein,Just, Latzer 2015)

Table II Selected market solutions and governance measures by categories of risk

| Risks | Market solutions | | Companies: self-organization | Branches: self-regulation | Co-regulation | State intervention |
	Demand side	Supply side				
Manipulation		✕	✕	✕		✕
Bias	✕	✕				
Censorship	✕	✕	✕			✕
Violation of privacy rights	✕	✕	✕	✕	✕	✕
Social Discrimination	✕		✕			✕
Violation of property rights		✕	✕	✕		✕
Abuse of market power			✕			✕
Effects on cognitive capabilities						
Heteronomy						

Source: Latzer *et al.* (2014)

Limitations

- **Self-Help / Market Solutions:** Consumer can often not opt-out / switch because of lack of alternatives, Skills for Self-Help Tools necessary, Hard for Consumer to detect manipulation, bias and censorship
- **Self-Organization / -Regulation:** Cost and Benefit of Company, Reputation-Sensitivity (B2C vs. B2B), Fragmentation of Industry
- **State Interventions:** risks such as bias, heteronomy and cognitive effects hard to address by the state

Rethinking Algorithmic Regulation (Medina, Eden 2015)

- Project CyberSyn in Chile (during socialist rule 1970-73): increase production and employment
- Central Location that collected important indices (worker satisfaction, production) and applied statistical methods to detect anomalies and predict future
- **Lessons:** State matters, older technology has value, privacy protection and decentralized control, opening the black box is important, thinking in terms of socio-technical systems and not technological fixes

Discussion Points

- What is Accountability (Documentation of what happened why vs. Responsibility)?
- What is necessary to establish Accountability?
- How could Accountability of Algorithms be enforced from outside?

Sources

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