Big Data Shaping knowledge, shaping everyday life

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Chapter Outline

- 6.1 Defining big data Fred
- 6.2 Advancing academic knowledge about digital media Fred
- 6.3 The uses and limits of big data in the social sciences Connor
- 6.4 Facebook's 'Brave New Worlds' Connor
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- 6.6 Big data and policy in different media systems

Defining Big Data



Definition 1: Research that represents a step change in the scale and scope of knowledge about a given phenomenon.

- Schroeder

Definition 2: Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations Especially relating to human behavior and interactions.

- Google/Wiki

Characteristics of Data (Scientific View)

Why Big Data isn't new?

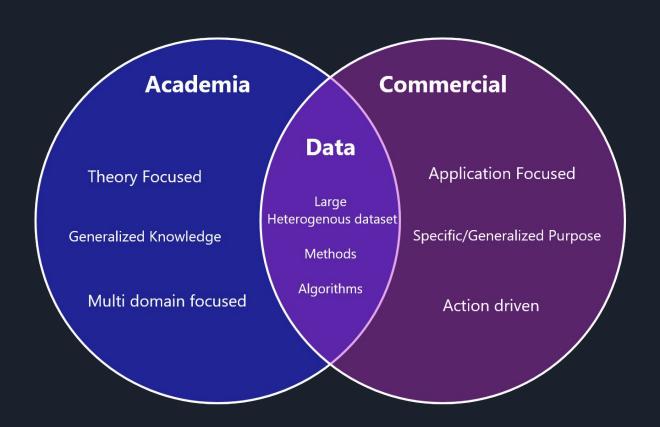
- Data belongs to the object or phenomenon under investigation; it is material collected about the research object. (Ontological - metaphysical))
- 2. Data exists prior to analysis
- 3. Data is the most divisible or atomized useful unit of analysis







The Divide In Big Data Research In Science

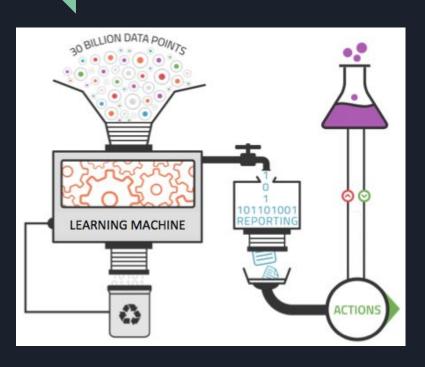


Implications of Big Data in the Social Sciences

- New data sources offer new opportunities
 - New statistical, computational approaches
- Analyze structure of social network, identify communities
 - More relevant advertisements and friend suggestions
- Understand how sentiment propagates through a social network
 - Offers an avenue to gauge public opinion
 - Possibility of influencing public sentiment
 - Both good and bad
- "Social nudging"
 - Embodiment of technological determinism



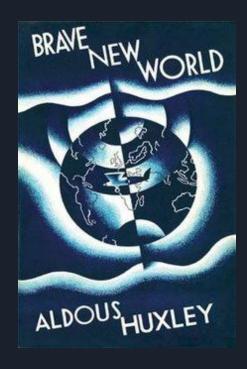
Implications of Big Data in the Social Sciences



- Inaccessible data
 - Proprietary data or undocumented collection practices
- Commercial efforts generally have short-term goals in mind
 - Applied vs academic uses of big data
- Findings uncovered are a function of the training set, and therefore unlikely to apply to the population at large
 - Limited impact on policy
- Unclear how/when different research efforts will converge
 - Lack of theory!
 - Specific goals and applications
- Depersonalization of a population
 - Undermine notion of personal responsibility

Facebook's "Brave New Worlds"

- Facebook dubbed it a study of "emotional contagion"
- Term is derived from Huxley's 1932 novel "Brave New World"
 - Peoples' thinking was shaped by government and commercial entities
- Facebook users were put into two groups
 - One group was exposed to more negative words, the other to more positive words
- Justification: a better user experience
- Hypothesis was true
- Future implications
 - o Ethics?
 - o Consent?
 - Output
 Underground?



Targeting publics, and the uses and limits of big data in everyday life

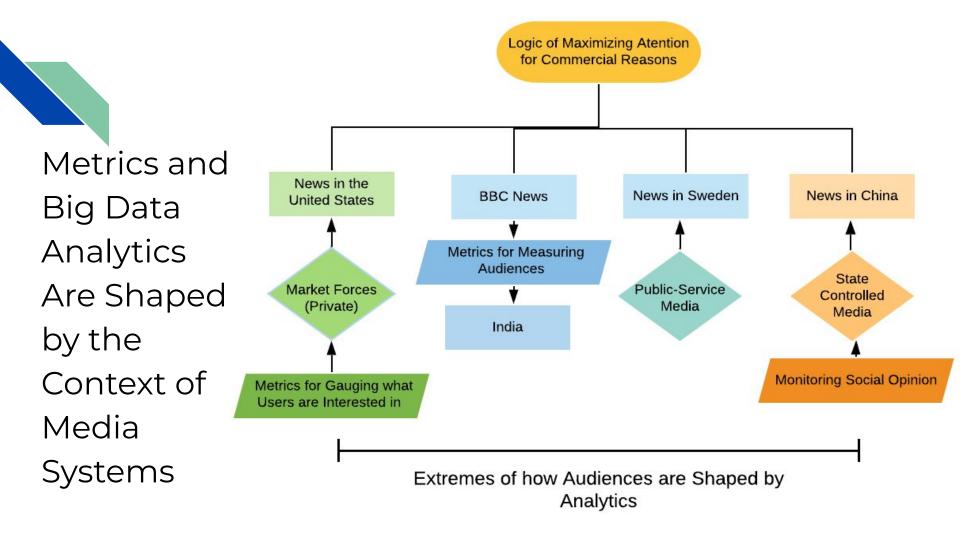
- Government and Media
 - Shaping of Audiences due to Differences in Media Systems
- Big Data Analytics for Political Mobilization
 - Karpf
- Karpf's 'listening' versus Schroeder's 'tailoring', 'targeting', ;manipulating'.
- Technological Shaping in Relation to Big Data
- Control of Knowledge
- Shaping of Media Systems

Competition for Attention and Big Data Analytics in Media

HCI FOR ACCURATE, IMPARTIAL AND TRANSPARENT JOURNALISM: CHALLENGES AND SOLUTIONS

CHI workshop: May 5th, 2019, Glasgow, Scotland

Do analytics shape the news that is read or viewed?



Big Data for Political Mobilization

Kampf's Political Mobilization

- Internet as a Tool for Giving Political Actors New Voices
 - Right-wing activists
 - Allows for interactions with political campaigns
- Political Campaigns can Gauge:
 - Gauge wants and harness citizen engagement
- Analytic activism: "Use of advocacy organizations that use analytics to target supporters and engage them"
 - Affords activist organizations with new ways or more information.

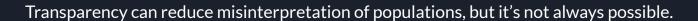


Technological Shaping, Control of Knowledge and Implications

Big data analytics produce powerful knowledge.

The knowledge must be either:

- 1) Regulated or curbed when harmful
 - a) Market distorting, non-transparant propoganda
- 2) Unregulated when harmless



- Data is proprietary
- Revaling algorithms would 'game' search engine results
- 'Trust' placed in a third party.

Analytics are only about the 'revealed preferences' rather than 'metapreferences'.



Use of knowledge can be for manipulation; Kampf view is about 'progressive activists' causes.

What are the implications if the analytics are applied to promote racism, intolerance, or unscientific claims?



Big data and policy in different media systems

"Social Management' versus 'E-government'

- India 'Aadhaar'
- China Social Credit System
- United States Policy uses of Big Data
- Sweden Personal Identifier System

Social and Behavioral Sciences Team Annual Report

Executive Office of the President National Science and Technology Council



September 2015

Schroeder states that typically digital media cuts across national contexts except for in China. What is the implications of this structure? And is this truly bound within national contexts?









