Data, Politics and Society

W10: Critical Data Studies

Where we at?

W6
W7 — Regulations and governance

W8
W9 — Crowdsourcing, VGI, and Geographic Citizen Science

W10 — Critical Data Studies

This week

- Brief overview of the past 9 weeks
- Tying this together in the idea of a Critical Data Studies
- Questions

So far

- Data I: The new possibilities that large scale human-generated data set offer.
- Data II: The ontological / epistemological challenges and issues that these new data sets introduce. What constitutes knowledge in the era of “Big Data”?
- Data III: The ugly side of data and the idea that data is not neutral and reflects existing power relationships / is an artefact of existing power relationships. Also: GeoPrivacy.

So far

- Data and Society: Different theories can be used to think about the idea of data and their role in society. Important theme: data is power.
- Data and Environment: There are significant environmental costs associated with the increase in computing resources in the form of data centres as well as data hungry and computationally intensive algorithms.

So far

- Data Protection Legislation: What are the most important pieces of legislation in the UK / EU when it comes to dealing with personal and sensitive data.
- Safe Research: Given personal or sensitive data, how can we try to work with these as safe as possible to minimise disclosure risks.
- VGI and Crowdsourcing: Importance of open data, another take on large-scale human-generated data sets, not without issues either.
- Geographic Citizen Science: Another take on large-scale human-generated data sets, trying to account for many of the shortcomings of passively large-scale human-generated data sets.

So far

Cukier and Mayer-Schoenberger 2013:

“The benefits to society will be myriad, as big data becomes part of the solution to pressing global problems like addressing climate change, eradicating disease, and fostering good governance and economic development.”

Carr 2014:

“A statistical model of society that ignores issues of class, that takes patterns of influence as givens rather than as historical contingencies, will tend to perpetuate existing social structures and dynamics. It will encourage us to optimize the status quo rather than challenge it.”

So far

We covered a lot, but a coherent framework to think about these issues seems to be missing: Critical Data Studies

The big questions

- How can we do data science properly?
- What does properly mean? In legal, ethical, moral terms?
- The role of geography and geographers in this?

Dalton and Thatcher 2014

Situating 'big data' in time and space

- "To understand 'big data' and whatever comes next, we must resist this urge to let it stand apart from history and pass silently into our everyday lives."
- Situating 'big data' knowledges help us understand both what is happening and why.

Dalton and Thatcher 2014

Technology is never as neutral as it appears

- Earlier critiques on 'Big Data': tool versus technology.
- 'Big data,' as a technology, is never a neutral tool. It always shapes and is shaped by a contested cultural landscape in both creation and interpretation.

Dalton and Thatcher 2014

'Big data' does not determine social forms: confronting hard technological determinism

- The innovation, production, and popular use of a technology occurs within and reflects a social context shot through with power, economies, identities, and biases.
- Even as technology and buzzwords change rapidly, the wider societal processes that shape technology and give it purpose show only gradual change.

Task

You are in charge of re-designing Tesco’s loyalty card programme. What data would you capture, why, and how would the captured data look like if put into a database?

Task

UID	V1	V2	V3	V4	V5	...	Vn
a1001							
a1002							

Dalton and Thatcher 2014

Data is never raw

- ‘Big data’ is the result of a specific technological imaginary that rests on a mythological belief in the value of quantification and faith in its ability to model reality.
- What is captured is determined by the goals of the project and the analytical model created to instantiate those goals.
- Social context is fundamental in both the production and interpretation of meaning (e.g. *thickness* of a social media like is lost, think ‘likes’).

Dalton and Thatcher 2014

Big isn't everything

- Even with models and theory, 'Big data' analytics cannot answer every research questions, and therefore cannot supplant other, more established qualitative and quantitative research methods.
- A 'big data' approach can never provide the depth and detail that comes with qualitatively learning about and understanding someone's standpoint.

Dalton and Thatcher 2014

Counter-data

- Counter-mapping challenge predominant power effects of mapping and engages in mapping that upsets power relations.
- We must ask what counter-data actions are possible? What counter-data actions are already happening?

Dalton and Thatcher 2014

What can Geographers do? What is our praxis?

- Geography sits at a unique position to help develop a fully critical data studies.
- (1) Geographers have decades of experience in analysing data in terms of space as well as developed critical approaches to spatial analysis.
- (2) Geographers emphasise not only space, but place (understanding the contextual value of place).
- (3) Geography has long been a field that accommodates a broad range of approaches and mixed methods research.

Dalton and Thatcher 2014

- What historical conditions lead to the realisation of ‘big data’ such as it is?
- Who controls ‘big data,’ its production and its analysis? What motives and imperatives drive their work?
- Who are the subjects of ‘big data’ and what knowledges are they producing?
- How is ‘big data’ actually applied in the production of spaces, places and landscapes?
- What is to be done with ‘big data’ and what other kinds of knowledges could it help produce?

More on Critical Data Studies

Several more thoughts on developing a Critical Data Studies:

- Dalton, Taylor, Thatcher 2016
- Kitchin and Lauriault 2014
- Iliadis and Russo 2016

Dalton, Taylor, Thatcher 2016

- Data varies across space in a variety of ways: from those included or excluded to those who access said data for analysis, manipulation and representation.
- Understanding data spheres and regimes, understanding historical context and parallels, understanding the epistemological and ontological leap between data subjects and its representation .
- “Critical Data Studies calls for ethnographic and discursive work, for the thick description of data and the cultures around it, just as much as it relies on algorithmic analysis. It is not enough to map Big Data, the point is to change it.” (p.7)

Kitchin and Lauriault 2014

- As the concept of data developed, data largely came to be understood as being pre-analytical and pre-factual, that which exists prior to interpretation and argument.
- Data are being viewed as being benign, neutral, objective and non-ideological in essence, reflecting the world as it is subject to technical constraints.
- However: it has been argued that data are constitutive of the ideas, techniques, technologies, people, systems and contexts that conceive, produce, process, manage, and analyse them.

Kitchin and Lauriault 2014

Vision for a Critical Data Studies:

- To chart and unpack the complex assemblages that produce, circulate, share/sell and utilise data in diverse ways;
- To chart the diverse work they do and their consequences for how the world is known, governed and lived-in; and
- To survey the wider landscape of data assemblages and how they interact to form intersecting data products, services and markets, and shape policy and regulation.

Kitchin and Lauriault 2014

Apparatus and elements of a data assemblage:

System of thought, forms of knowledge, finance, political economy, governmentalities and legalities, materialities and infrastructures, practices, organisations and institutions, subjectivities and communities, places, marketplace.

Data assemblages form part of a wider data landscape composed of many inter-related and interacting data assemblages and systems.

Kitchin and Lauriault 2014

Apparatus	Elements
Systems of thought	Modes of thinking, philosophies, theories, models, ideologies, rationalities, etc.
Forms of knowledge	Research texts, manuals, magazines, websites, experience, word of mouth, chat forums, etc.
Finance	Business models, investment, venture capital, grants, philanthropy, profit, etc.
Political economy	Policy, tax regimes, incentive instruments, public and political opinion, etc.
Governmentalities and legalities	Data standards, file formats, system requirements, protocols, regulations, laws, licensing, intellectual property regimes, ethical considerations, etc.
Materialities and infrastructures	Paper/pens, computers, digital devices, sensors, scanners, databases, networks, servers, buildings, etc.
Practices	Techniques, ways of doing, learned behaviours, scientific conventions, etc.
Organisations and institutions	Archives, corporations, consultants, manufacturers, retailers, government agencies, universities, conferences, clubs and societies, committees and boards, communities of practice, etc.
Subjectivities and communities	Of data producers, experts, curators, managers, analysts, scientists, politicians, users, citizens, etc.
Places	Labs, offices, field sites, data centres, server farms, business parks, etc, and their agglomerations
Marketplace	For data, its derivatives (e.g., text, tables, graphs, maps), analysts, analytic software, interpretations, etc.

Kitchin and Lauriault 2014

At least four ways in which the darker side of data is shown:

- Dataveillance and the erosion of privacy
- Profiling and social sorting
- Anticipatory governance
- Secondary uses and control creep

Iliadis and Russo 2016

- Also start from the idea that data are a form of power.
- Critical Data Studies advocate the view that Big Data should be seen within wider data assemblages.
- Assemblages is a concept that helps capture the multitude of ways that already-composed data structures inflect and interact with society, its organisation, and functioning, and the resulting impact on individual's daily lives.

Iliadis and Russo 2016

Critical Data Studies is to follow three basic principles:

- Identification of social data problems
- The design of critical frameworks for addressing these problems
- The application of social solutions to increase data literacy

Summary?

- Critical Data Studies is about data and its power, especially the collective power data (scientists) have in our digital society and the ethical implications of such power.
- At very least a warning against dataveillance (see Van Dijck 2014).
- Asking questions on the nature of data, how they are being produced, organised, analysed and employed.
- Question the positivist ground that big data and data science has been built on.
- Draws on the work of predominantly post-structuralist philosophers who have written about power and how it is constructed and exercised (through language and other apparatus).
- Strongly influenced by Michel Foucault and the idea of biopower.

Conclusion

- Module as a vehicle to start thinking of the idea of a Critical Data Studies.
- Borrowing from existing perspectives and contributions from other Critical Approaches to research; an extended introduction.
- Starting point to think about these issues, rather than an end point.
- Geography and geographers can, and should, play an important role.
- Critical Data Studies is a rather young and emerging field of inquiry – evidenced by major contributions by small number of scholars (e.g. Kitchin, Dalton and Thatcher)

Conclusion

- Becoming more conscientious data practitioners. How may this be framed, phrased, and conceived? From new and bigger is always better to the idea of: what does this mean in practice? What questions do we (want to) answer with our research? And can we?
- Importance of this module in the context of large-scale human-generated data sets:
  - to become problem solvers and question askers, to think deeply about appropriate design and process, and to use data responsibly and make the world better, not worse.
  - a starting point.

Some final thoughts

Illiadis and Russo 2016:

- A critical data science approach is one that promotes common good, informed data analysis and data justice.

Taylor and Purtova 2019:

- How to get to a responsible and sustainable data science? Treating data as a Commons?

Some final thoughts

Van Dijck 2014:

- To keep and maintain trust, Big Data researchers need to identify the partial perspectives from which data are analysed; rather than maintaining claims to neutrality, they ought to account for the context in which data sets are generated and pair off quantitative methodologies with qualitative questions.

Some final thoughts

Dalton, Taylor, Thatcher 2016

- Ultimately, Critical Data Studies must make space for the recursive dialog between the deeply theoretical and the robustly empiric and, in so doing, avoid the hubris of pseudopositivism and technological determinism, in favor of the nuanced and contingent.

Seminar preparation

- There is no seminar this week.
- For everyone with an exam or assignment this week: Good Luck!

Seminar preparation

Continuous Module Dialogue

Go to www.menti.com and use the code 4462 0181

Questions

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Happy winter break!