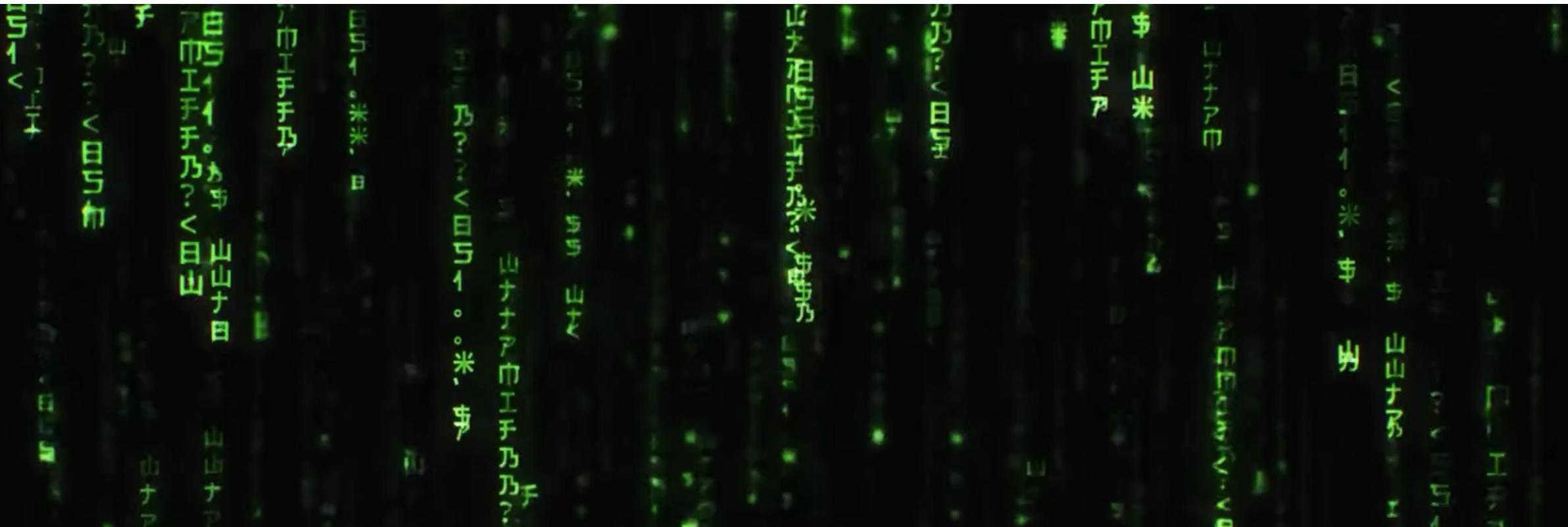


# Data, Politics and Society

## W4 – Data and Society



# Where we at?

W1

W2

W3

Data: The Good, The Bad, The Ugly

W4

W5

Societal and environmental impacts of data and technology

# Today

- Data and their role in society / social context of data
- Thoughts on society from a **sociological and geographical** perspective:
  - (1) Time geography (Torsten Hägerstrand)
  - (2) Structuration theory (Anthony Giddens)
  - (3) The network society (Manuel Castells)
  - (4) Biopower (Michel Foucault)
- Data and technology as a form of power – even more so in the 'information age'

# Social context

- Data and technology operate within a social context – as evidenced by last week's focus on algorithmic bias.
- The role of data and technology in society depends to some extent how the idea of social context or society is conceptualised and understood.

# Power

- Important concept within the idea of a social context or society.
- Central to the idea of power: bringing about consequences.
- Understanding how some people effectively control the actions of others is one of the central questions in sociological thinking on society and social practice: the question of power or domination.
- By what means is power made right, just or legitimate (and becomes authority)? How is power exercised?



# Time geography

- Proposed by Hägerstrand in the 1970s.
- Time geography is an integrative approach to studying the coordination of human activities in space.
- A very geographical, almost analytical or descriptive, approach to 'how society functions': amalgamation of individual movements.
- Rather groundbreaking individual approach; a reaction to MAUP and challenges with changing administrative borders over time.

# Time geography

Encyclopedia of GIS:

"Time geography is an individualistic, bottom-up approach to analyzing and simulating human phenomena such as transportation, urban and socio-economic systems. Time geography examines how humans allocate scarce time resources among activities in geographic space, the use of transportation and communication technologies to facilitate this allocation, and the patterns and relationships that emerge from these allocations across the population."

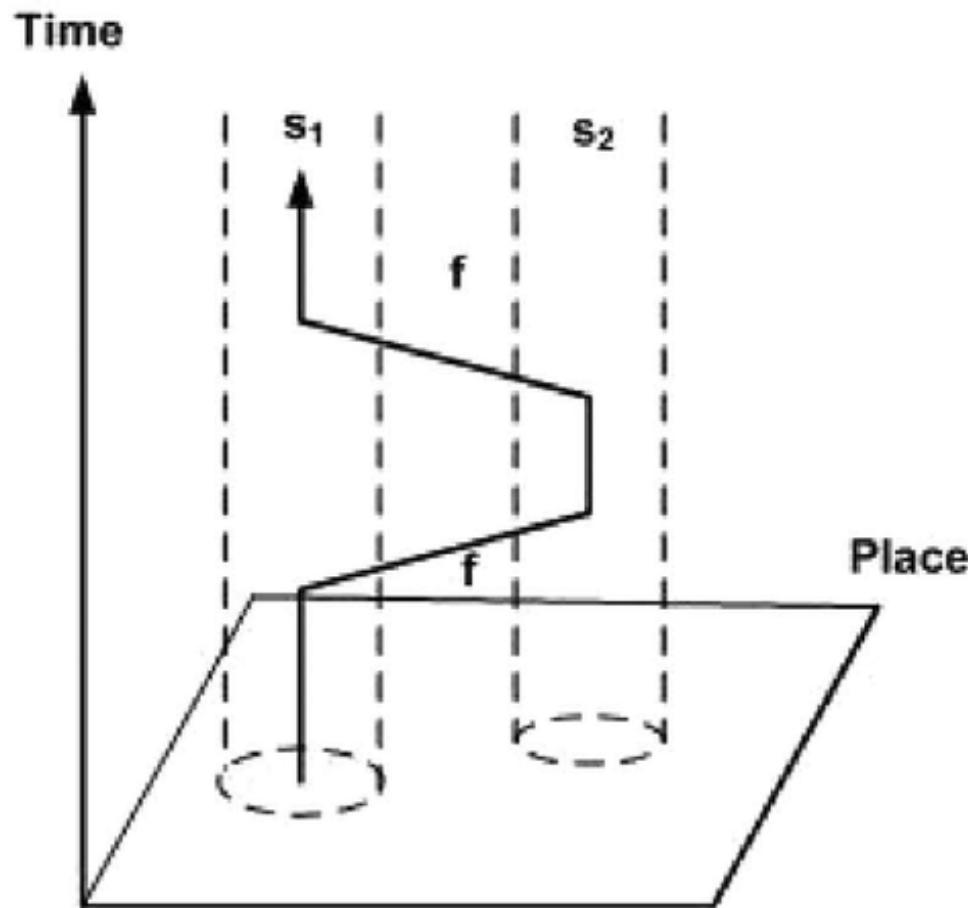
# Time geography

Let's break this down a little.

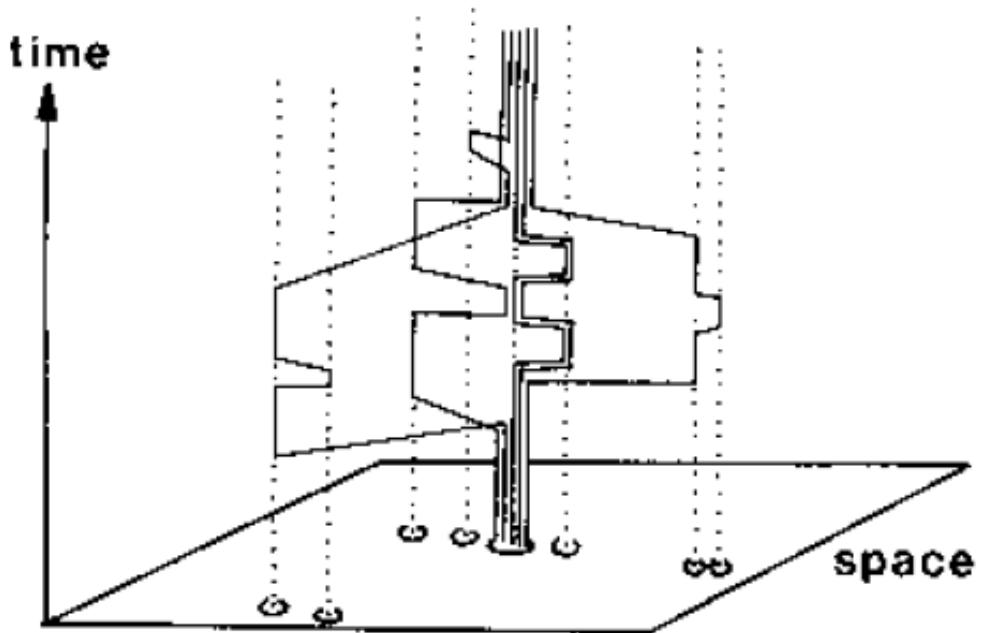
# Time geography

- Time geography describes the life of an individual as a continuous path through time and space, constituted by movements through space and activities localised in space.
- All activities are governed by three constraints: physiological constraints, capability constraints, and coupling constraints.
- These constraints can mitigate but also reinforce one another's impacts on activity participation and travel behaviour.
- When people meet their individual space-time paths form a bundle.

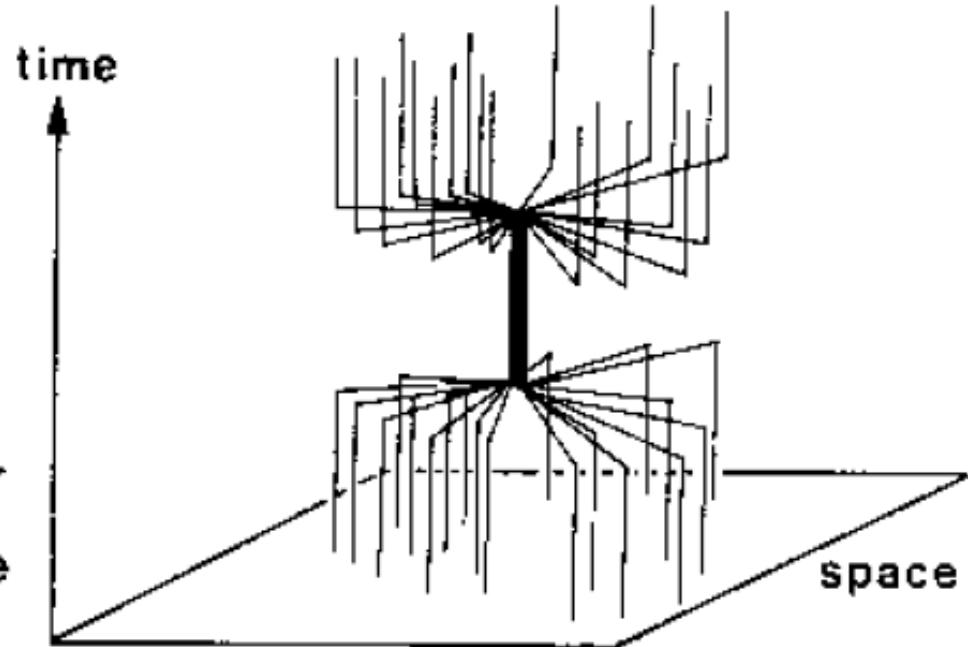
# Time geography



# Time geography



Household  
"bundle"



School  
"bundle"

# Time geography

- Useful, analytical way to describe activities; importance in context of transport research (e.g. individual accessibility).
- Various critiques: ignores any issues of race, class, gender (i.e. power relationships), focus is very much on individual.
- Only considers physical space, although several developments made later to also conceptually include 'virtual space' (e.g Helen Couclelis on expanding traditional three-dimensional space-time model into a multidimensional structure representing purposeful activity in space and time).

# Structuration theory

- Proposed by Anthony Giddens in the 1980s.
- Focus is on the interplay between individual actions and collective outcomes.
- A sociological perspective on 'how society functions'.
- Reaction to a long-standing question to explain social behaviour: structural forces that act on people (focus on macro-processes and institutions) versus human agent as primary actor (micro processes).

# Structuration theory

- Structuration Theory is a scheme to account for the ways in which social systems are produced and reproduced in social interaction. **Duality.**
- The structure-agency duality signifies that social structures are presented in the choices agents (individuals) make during social practice, while at the same time, agents shape and reshape social structures.
- Institutions: established patterns which are produced and reproduced across time and space.

# Structuration theory

- Giddens also stressed the importance of power.
- Power as transformative capacity: ability to make a difference in the world.
- Every social action (any action with an intention) is an act of power, however, amount of power an individual has is related to resources: *allocative resources* and *authoritative resources*.
- All social systems are power systems (e.g. schools).
- Giddens suggests that surveillance, both watching people and collecting information about them, is essential to maintaining the power of the modern nation-state and to maintaining any social system.

# The network society

- Proposed by Manuel Castells in the late 1990s.
- Focus is on the role of information technology in the digital age.
- A sociological perspective on 'understanding different places' with a prominent role for technology.
- Castells argues that with the rise of 'the network society' the world has entered a new age – the information age and a new type of "informational city" based on flows of information replacing earlier industrial and post-industrial cities based on manufacturing and delivery of services.
- Information technology has transformed 'networks'.

# The network society

Space of places:

- The traditional physical world of neighborhoods and local business nodes where people live their day-to-day lives.

Space of flows:

- The electronic, computerised network of telecommunication flows.

# The network society

Castells 2000:

"The "death of distance" is not the end of the spatial dimension of society. First, the space of places, based in meaningful physical proximity, continues to be a major source of experience and function for many people and in many circumstances. And second, distant, interactive communication does not eliminate space; it transforms it. A new form of space emerges – "the space of flows." It is made of electronic circuits and information systems, but it is also made of territories, physical places, whose functional or symbolic meaning depends on their connection to a network, rather than on its specific characteristics as localities." (p.696)

# The network society



# The network society



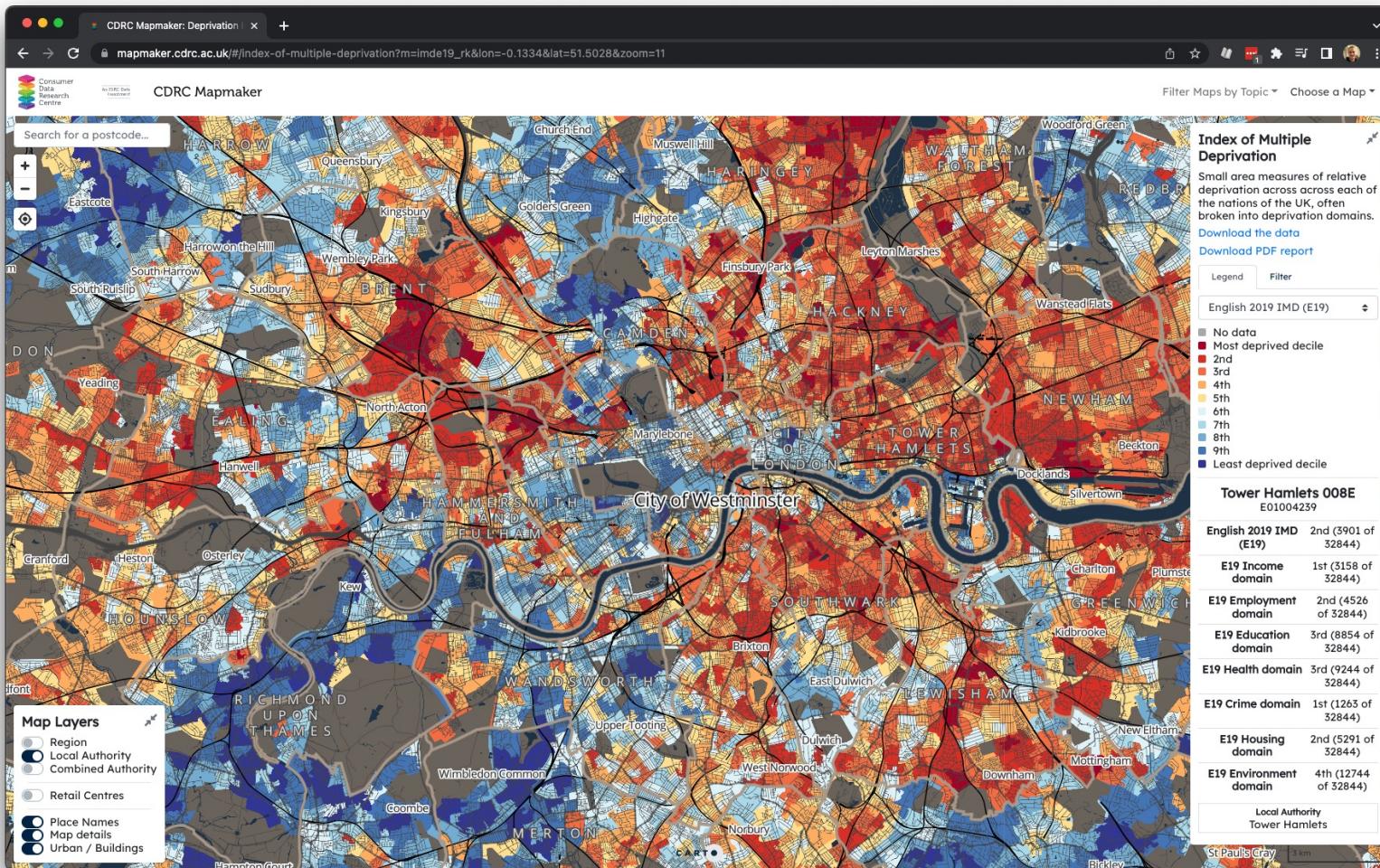
# The network society

- Much more a descriptive theory without a focus on individual actors: social implications of globalisation and the role of electronic communications technologies in society.
- A key aspect of the network society concept is that specific societies (whether nation states or local communities) are deeply affected by inclusion in and exclusion from the global networks that structure production, consumption, communication and power.
- In the concept of the network society, the chief form of power is control or influence over communication.

# The network society

- Exclusion is a built-in, structural feature of the network society.
- Networks function on the basis of incorporating people and resources that are valuable to their task and excluding other people, territories and activities that have little or no value for the performance of those tasks.
- Most fundamental divides in the network: "those who are the source of innovation and value to the network society, those who merely carry out instructions, and those who are irrelevant whether as workers (not enough education, living in marginal areas with inadequate infrastructure for participation in global production) or as consumers (too poor to be part of the global market)."

# The network society



# Biopower

- Ideas formulated by post-structuralist philosopher Michel Foucault.
- Michel Foucault is perhaps the most important thinker for understanding current issues of social justice in data science and technology.
- Foucault was interested in dissecting and illuminating the “invisible” forms of power and how social norms subtly worked to “produce” subjects with easily distinguishable labels.
- The risk of the oppression of the unique individual by the conformist masses.

# Biopower

- Foucault saw the advance of statistical theory, and its use by the state to record its population as a form of this subjugation and oppression of the individual and the emergence of what he called biopower.
- Biopower: the practice of modern nation states and their regulation of their subjects through an explosion of numerous and diverse techniques for achieving the subjugations of bodies and the control of populations.
- A technology of power for managing humans in large groups – encoded into social practices as well as human behaviour.

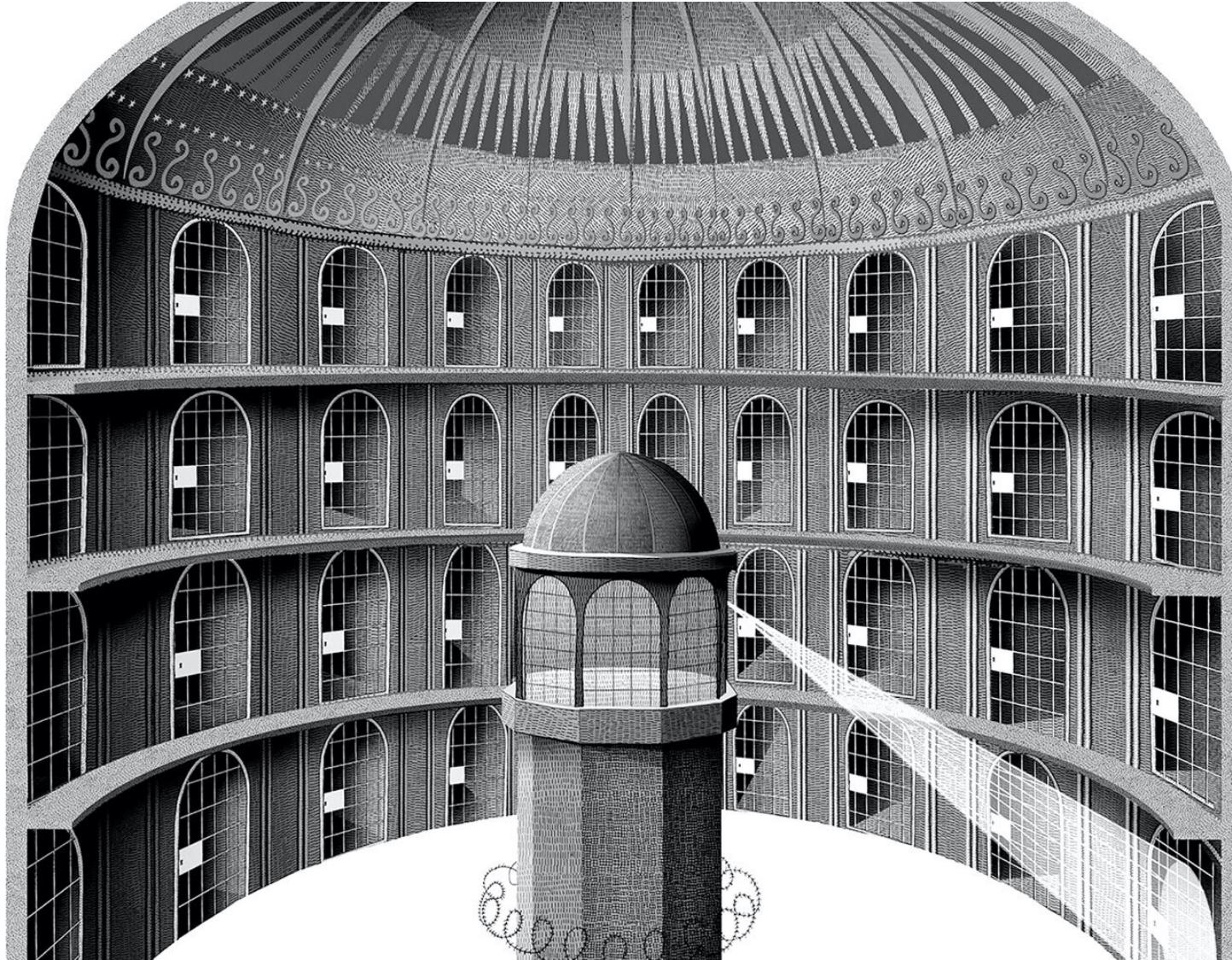
# Biopower

- Data's production interests those who exercise power – the state, commercial entities and even academic institutions. As a result, we need to question how data are used by these different stakeholders to exercise power – in their visible and invisible ways – on citizens.
- Data within smart city initiatives are portrayed as being benign and lacking in political ideology. Likewise, the algorithms used to process these data are neutral and non-ideological in their formulation and operation, grounded in scientific objectivity.
- Data do not exist independently of the ideas, techniques, technologies, people and contexts that conceive, produce, process, manage, analyse and store them

# Panopticon

- Foucault used the idea of a panopticon as a way to illustrate the proclivity of disciplinary societies to subjugate its citizens.
- Original idea by Jeremy Bentham.
- The panopticon is a disciplinary concept brought to life in the form of a central observation tower placed within a circle of prison cells. From the tower, a guard can see every cell and inmate but the inmates can't see into the tower. Prisoners will never know whether or not they are being watched. New technologies as a panopticon?

# Panopticon



# Back to data and geography

How do these ideas of power and society relate back to large-scale human generated data, geographical thinking, and geography?

# Back to data and geography

- As discussed last week!
- Metropolitan's police Gang Matrix
- ImageNet as discussed in the seminar
- "Leefbaarheidsbarometer" (neighbourhood livability index)
- UK passport smartphone application

But there are some further examples: maps, smart cities, and the platform economy.

# Politics and power of maps

Kitchen *et al.* 2011:

- "An important way that the power of the 'cartographic gaze' works, is by dehumanising the landscape, allowing powerful groups to exercise power at a distance, 'removed from the realm of face-to-face contacts'."
- "Maps are inherently ideologically loaded, vested with the interests of their creators."

For instance: red-lining.

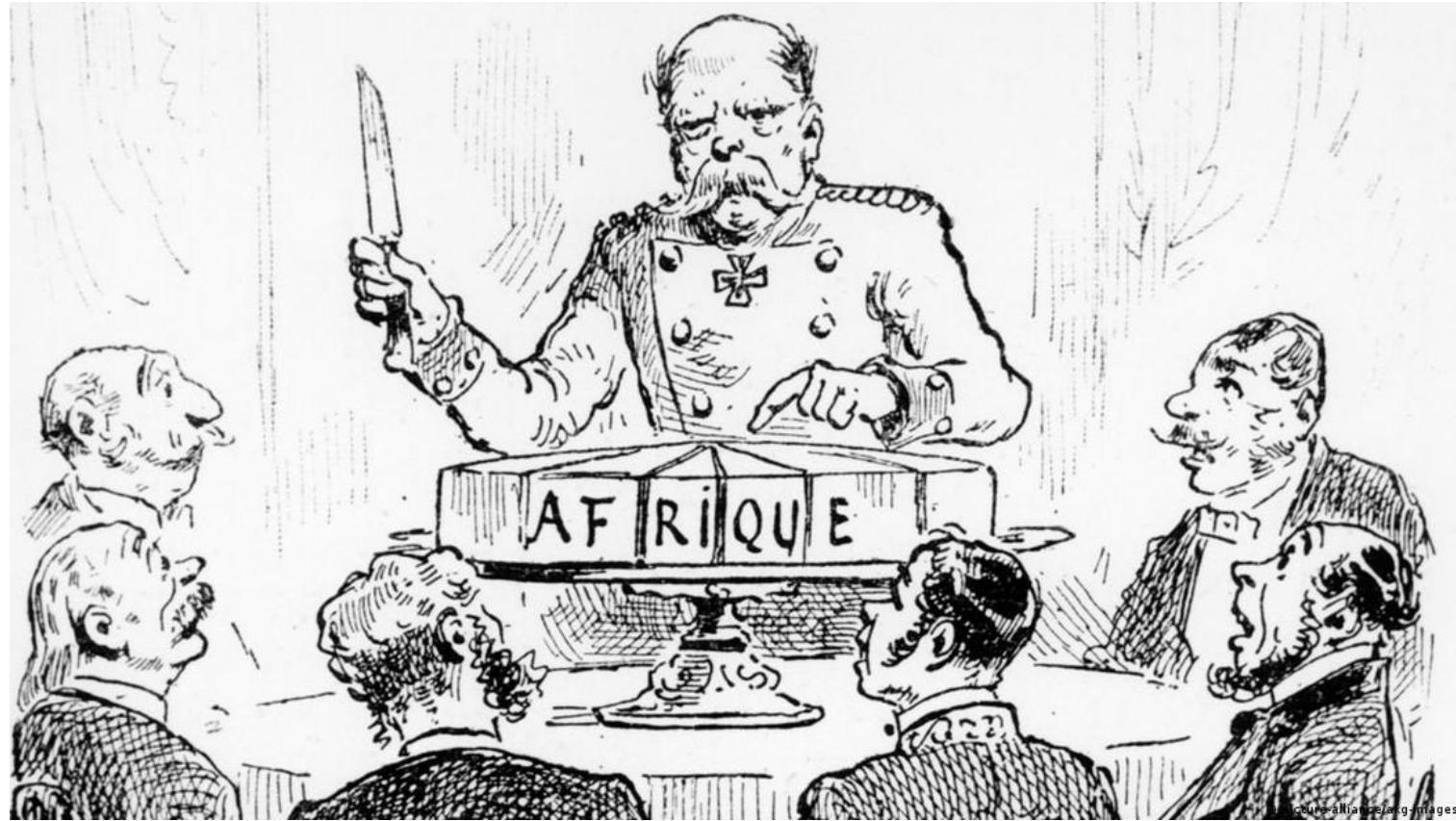
# Politics and power of maps

Kitchen *et al.* 2011:

- "Maps are a product of power at work and that they are powerful tools in struggles of domination and resistance."
- "Mapping has been, and remains, a key device in the formation of nation states, colonial projections of power and the control of distant imperial lands."

Maps can present a coherent presentation of territorial continuity and the unity of people to a common cause; **imagined-community** (Anderson 1983)

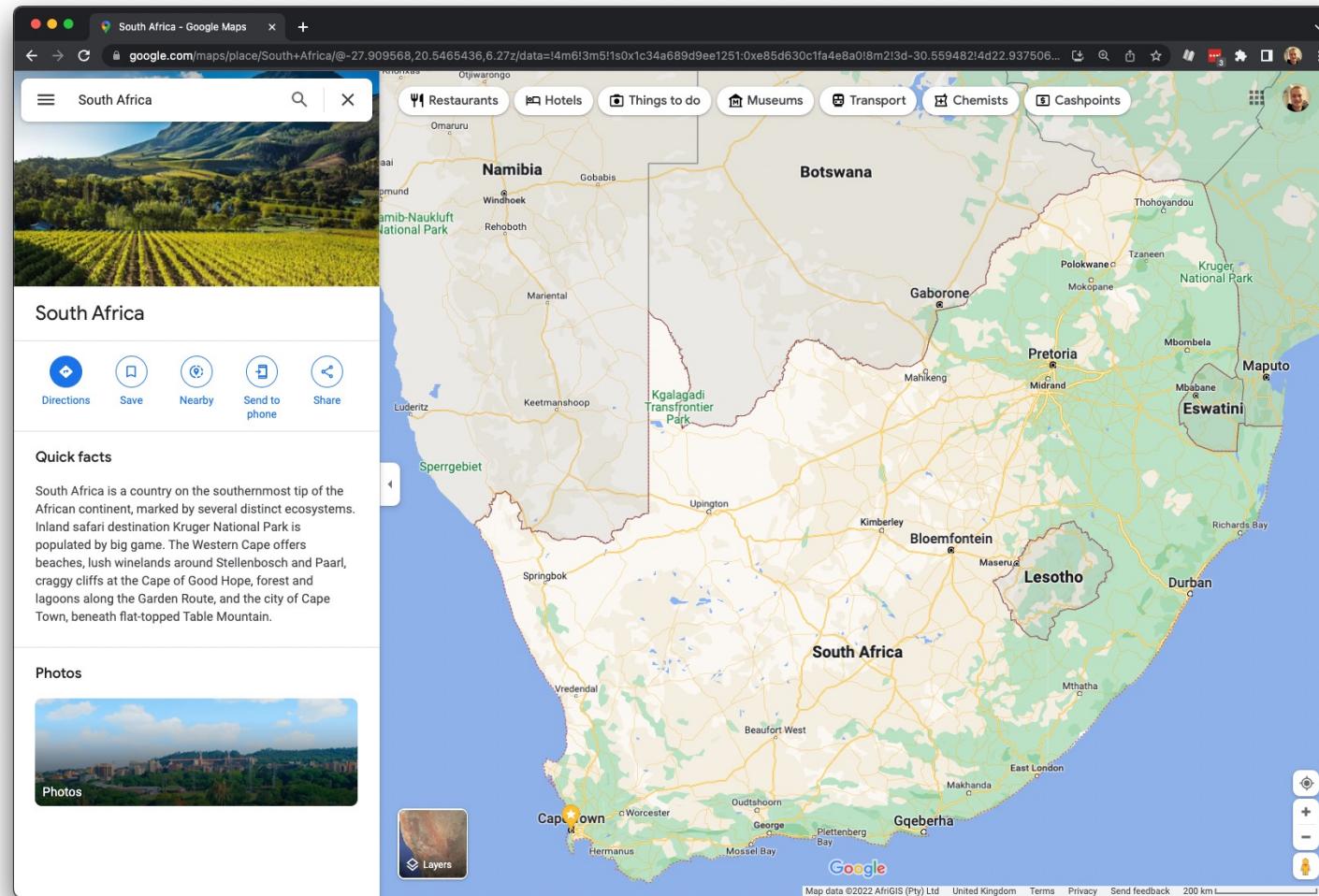
# Politics and power of maps



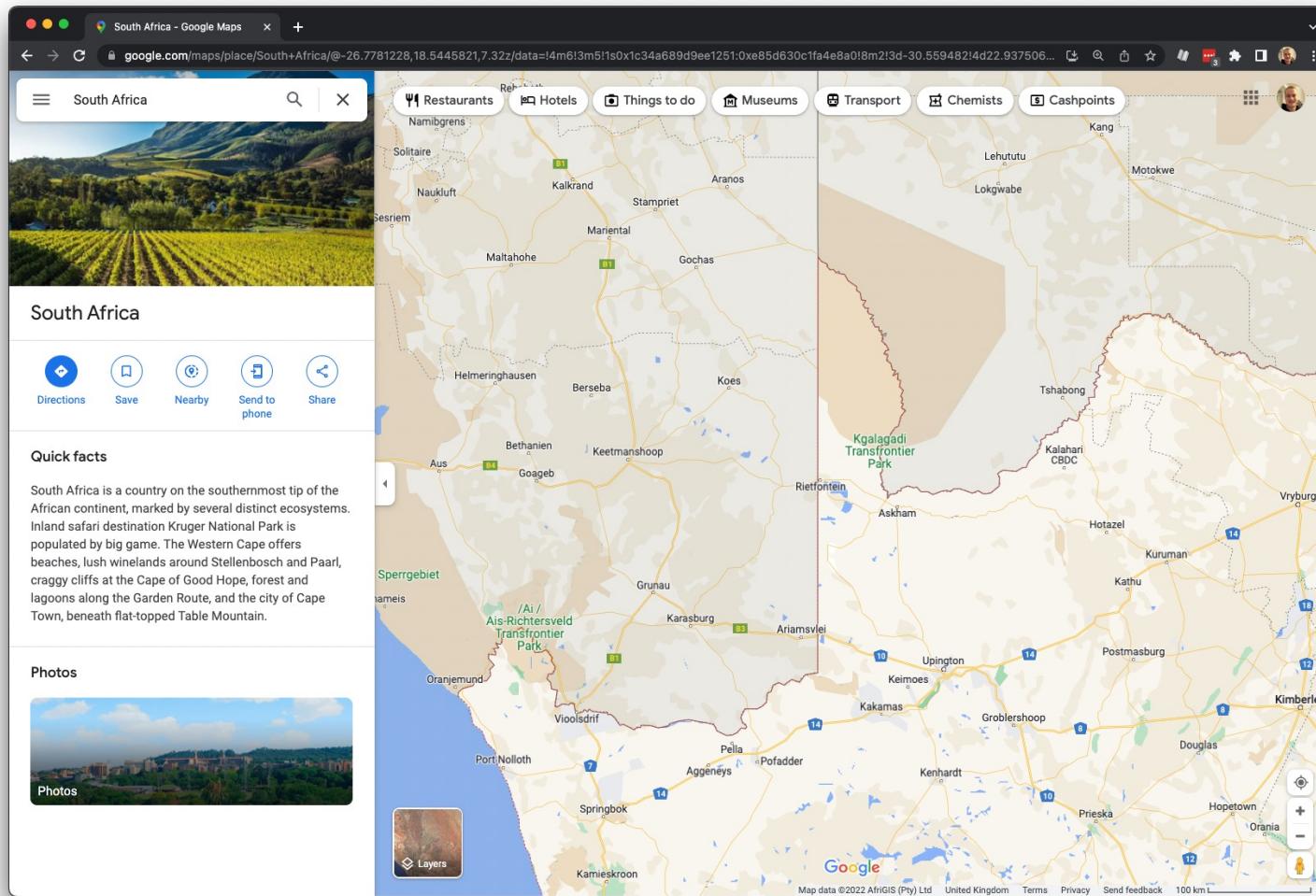
# Politics and power of maps



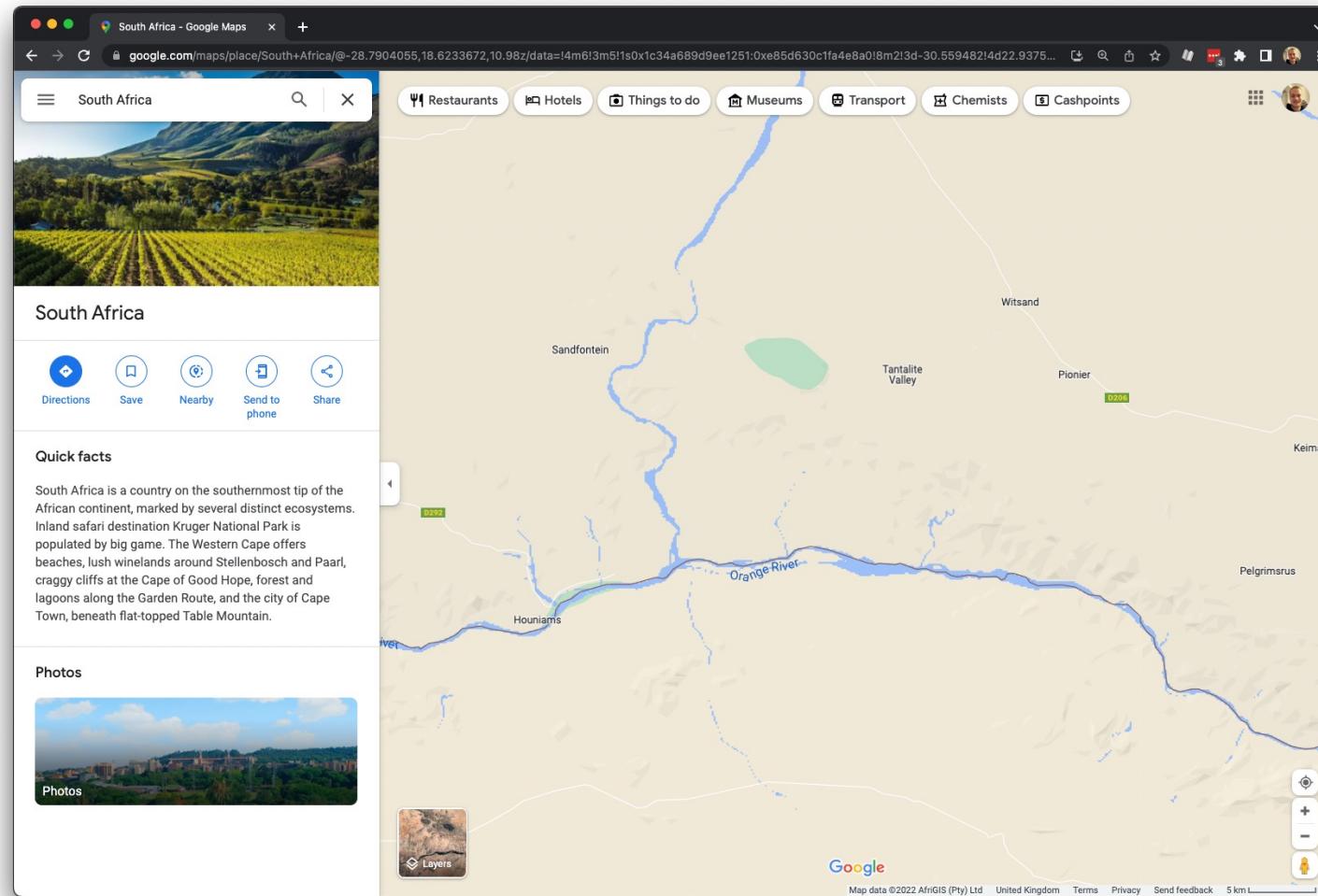
# Politics and power of maps



# Politics and power of maps



# Politics and power of maps



# Politics and power of maps

- Maps are a medium through which it is possible to spy in real time on most citizens.
- For example, it is possible to track the mass movements of people and vehicles through cities by mapping data automatically generated by ANPR traffic cameras, smartcard-ticketing on metros and mobile phone identifiers.
- These changes raise significant concerns with respect to civil rights, equity and privacy, and yet they are supported by powerful discourses concerning security, safety and economic rationality as well as opening up profitable new opportunities for business, which encourages continued implementation for the foreseeable future.

# Politics and power of maps

- “An error by Google Maps which wrongly gave Nicaragua a tiny parcel of land in Costa Rica is threatening to escalate into a continent-wide dispute.”
- Google redraws the borders on maps depending on who's looking: [\[Link\]](#)

# Smart city

- Datta 2020
- Safety is gendered. Smart city as a solution?
- Delhi proposals were made to make the central business district “Dark Spot Free” with a network of CCTV cameras, together with a smartphone application.
- Move from Government 1.0 (public-private partnerships) to Government 2.0 (use of information technology).
- “This claims to offer two benefits: the speed of rapid and connected response to crime, and the crowdsourcing of knowledge and information on incidents of VAW through the use of smart safety apps.” (p.1320)

# Smart city

- "This approach imagines VAW as a set of asynchronous urban events, rather than cyclical, periodic, and socially significant time spaces of gender power inequalities." (p.1320). **Lived experience.**
- What about people in the margins?
- "Digital infrastructure itself becomes a form of slow violence that, while drawing women as data entry points in safety apps simultaneously, excludes them from a wider sense of belonging and right to the city." (p.1332)

# Platform economy

- Digital platforms are reshaping cities in the twenty-first century, providing not only new ways of seeing and navigating the world, but also new ways of organising the economy, our cities and social lives.
- Claims: facilitate **a new sharing economy**, outside of the exploitation of the market and the inefficiencies of the state.

# Platform economy

- Walker *et al.* 2021
- Marketisation of human lives far outside the time and space where work has traditionally been undertaken: new ways to extract profits from *idle vehicles* and *empty apartments*.
- “Despite educational attainments and the widespread availability of communication tools that could effectively mobilise collective dissent, workers in the gig economy frequently appear powerless.” (p.27)

# Platform economy

- Platform economy encourages low-wage or unemployed individuals to fill up their evenings and weekends with income-supplementing activities.
- "Biopower represents a form of regulation that utilises life itself, individuals' bodies, time, personalities and everyday decisions, much of which falls outside the typical 9-to-5 pattern of employment. (...) While this mode of biopower harvests value from the full 'life' of workers, it paradoxically dehumanises management, replacing supervisors with a set of highly depersonalised and disembodied commands." (p.27-28)

# Platform economy

- Management by algorithm is a salient feature of the platform economy's business model.
- Central to this is the use of smartphones – it has become difficult to differentiate between 'labour time' and 'personal time'
- Enter Foucault's biopower: how control functions within the platform economy, particularly given that no direct supervisors are present.
- Depersonalised authority.

# Conclusion

- Power plays an important role in thinking about society and the way it functions.
- Variety of theories and thoughts on how exactly power is exercised, implications for the role of data and technology in modern society.
- Question going forward: given these wider thoughts on data and power and their role in society, how can we still try to use data safely or what are alternative methods to gather our data?

# Seminar preparation

In preparation for the next seminar, find an example of a map (either current or historical) which illustrates the use of maps in exercising power or communicating a particular perspective. You can think along the lines of content, colour use, borders, symbology, etc.

You do not have to submit a copy of this map in advance, however, do bring a digital copy so that you can share it with the seminar leader so they can show it on the projector.

# Feedback

Go to [www.menti.com](http://www.menti.com) and use the code 2333 7264

# Questions

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